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LESSONS FROM THE WAR AS TO TUBERCULOSIS

THE SITUATION IN FRANCE *

GEORGE E. BUSHNELL, M.D.
Colonel, U. S. Army (Retired)
WASHINGTON, D. C.

Tuberculosis may be said to be preeminently the disease which interests the philanthropist. It is one of the most curable of chronic diseases, and more or less definite plans for attacking it have been formed which are of interest to the social workers, to students of economics, to those who control the charitable activities of the state and of the municipality, and to the vast number of private citizens who maintain benevolent societies by their contributions of money and of personal effort. We may therefore well hope that the activities of the Surgeon-General's Office as respects the prevention of tuberculosis in the Army will be of interest to the public as well as to the medical profession, and, perhaps, most of all to an assemblage, the members of which are connected with a nation-wide association for the treatment of tuberculous patients.

It was decided by the Surgeon-General, early in the war, that the entire army should be examined for tuberculosis by specially expert physicians. Many difficulties were experienced at first in obtaining examiners; it is not necessary to detail them now. Suffice it to say that examination was made first of the officers' training camps, then of some 105,000 men of the Regular Army, and finally of the National Guard as soon as it was mustered into the United States service. For the last examination, in view of the dearth of examiners for the camps, the expedient was adopted of examining the National Guard troops of many of the larger cities at their armories. This made it possible to utilize at home the services of the large number of patriotic physicians who, on account of various reasons—age, ill health, pressure of other obligations, etc. — were unable to go into the field. After the National Guard came the turn of the National Army, the examination of which is now nearing completion. When this is finished, approximately 800,000 men will have been examined.

The number of cases of tuberculosis detected is somewhat less than 1 per cent. of the total number of men examined. From a financial standpoint the examinations have paid for themselves manyfold, for it has been calculated that each tuberculous patient that is returned from Europe will cost the government about $5,000, and it is a conservative estimate that the tuberculous soldier who never leaves this country will cost on an average $1,000, including pension. If we assume, then, that the total number of cases of tuberculosis detected is, say, 7,000, and that these men were eliminated from the Army before they could justly claim pensions as the result of their Army service, the saving to the government will be at least $7,000,000.

But, you will say, the question of expense is, after all, a minor consideration. How about the efficiency of the examination—have all the cases of tuberculosis been detected? Naturally, I cannot give a categorical reply to this question. We have simply done the best we could to obtain the most skilful examiners. Indeed, we have been remarkably successful in securing men of the very highest class as examiners. Taken as a whole, the boards of examiners have been fair representatives of the best medical skill of the country. That every case has been detected, no one would claim. Some soldiers of the various organizations, sick in hospital, on detached service, on furlough, etc., have not been examined. The individual examiners have been expected to examine at least fifty men a day. Some have averaged a much higher number. Doubtless there have been times when the attention flagged, when noises disturbed, so that the telltale signs of tuberculosis escaped detection. But we can at least be sure that the great bulk of the cases has been disposed of, that such patients as remain in the ranks constitute but a very small proportion of those that were present before the examinations were commenced.

Another question that may be asked is one that might not occur to the reader so readily and that is, Have not the examinations been too thorough, have not men been rejected who were really fit for service? This question, which, as I shall attempt to show, is a very fair question indeed, is one not readily answered. As dead men tell no tales, so men discharged do not come to the attention of the War Department, that is, as a rule; there have been exceptional cases in which we have been obliged to admit that the boards had been too particular, that the men rejected really had no active tuberculosis. This phase of the subject is one of importance, for more reasons than one. Let us consider it more fully. In order to do this I must say a few words as to the diagnosis of tuberculosis, a highly technical subject, to be sure, but one which must be considered, nevertheless, if a correct view of the situation is to be obtained.

THE DIAGNOSIS OF TUBERCULOSIS

For some years it has been the aim of many writers on the diagnosis of tuberculosis to discover signs which should reveal the presence of tuberculosis at a

* Read at the annual meeting of the National Jewish Hospital for Consumptives, New York, Jan. 13, 1918.

much earlier date than was possible by resort to the commonly recognized signs of that disease. This was based on the theory that a very early diagnosis would lead to more speedy and certain cure. This striving after new signs, or this giving of a new significance and weight to signs formerly regarded as unimportant, or overlooked entirely, has not been peculiar, by any means, to the profession of the United States. The tendency in this direction has been marked in the medical writings of England, France and Germany as well. It may be said that there is one school of tuberculosis, all over the world, that holds the view that, given acute enough perceptions and close enough attention, it is possible to make the early diagnosis of incipient pulmonary tuberculosis to an extent hitherto undreamed of. The more conservative experts, as a rule, held their peace during this time, so that to one not familiar with the subject it appeared that the new school was unopposed, that its teachings represented the actual facts. Hence the younger men grew up to believe very largely that the diagnosis of tuberculosis was one of extreme difficulty which only the trained expert could compass, and were correspondingly discouraged in attempting such diagnoses themselves, unless the circumstances were such that they could specialize in tuberculosis. If the new school, as I have called it, is correct in its doctrines, well and good. If not, what is the result? Manifestly, that many cases will be called tuberculous wrongfully, and that credit will be given for cures of a disease that did not exist.

THE SITUATION IN FRANCE

One could hardly have anticipated the momentous effect which this teaching has had on the military efficiency of the armies of the contending nations, and especially on the army of France. Early in the war it was reported, on the authority of Landouzy, one of the most prominent of French physicians, that during the first year of the war 86,000 soldiers were discharged from the French army on account of tuberculosis. This report was received with something like consternation in this country. It was rightly felt that such figures denoted an appalling situation, and the deduction was very naturally made that military service under conditions of modern warfare is extremely harmful, that it favors in a peculiarly fatal way the development and spread of tuberculosis. From this sprang the fear that our troops would likewise be decimated by this so dreaded disease, and the demand that the slightest indications of the existence, present or past, of a minimum amount of tuberculous involvement should be sought for with extremest care, with a view to exclude the bearers of such lesions from the ranks of our army.

Since the pronouncement of Landouzy, however, enough time has elapsed for a revision of these figures. The discharged soldiers composing this army of 86,000 have been reexamined and kept under observation. And with what results? A cablegram has recently been received by our friend Colonel Dercle from the French minister of war, from which it appears that less than 50 per cent. of this 86,000 are now officially recognized to have tuberculosis. The old saying is, "Give a dog a bad name and it is hard for him to lose it." Similarly the diagnosis of tuberculosis once made for a given patient is likely to be sustained. The self-distrustful physician may think the diagnosis to have been made by one of diagnostic ability superior to his own, and there is always the thought, "I shall be disgraced if I say that such and such a patient has no tuberculosis, and he afterward is found really to have the disease." It requires no small amount of courage and independence to reverse findings of this nature. A man of this stamp was found in Major Rist of the Medical Department of the French army, for some time attached to the office of the Surgeon-General of our army. Major Rist examined various groups of men sent back from the front with the diagnosis of tuberculosis, and found the disease present in less than 20 per cent. of the cases. Blümel, in Germany, also has reported that of cases supposed to require sanatorium treatment, examined by him, less than 20 per cent. had active tuberculosis. His figures, arrived at independently, are thus seen to agree singularly with those obtained by Major Rist in his examination of supposedly tuberculous soldiers. Such percentages of active disease, so much smaller than any one would have anticipated, permit a doubt as to the percentage of the tuberculous reported by the French authorities. Indeed, Major Rist[1] expresses the opinion that, of the 86,000 noted, less than 20 per cent. were really tuberculous, thus showing that for him the figures of less than 50 per cent. given by the minister of war are, to say the least, conservative. It appears, then, that the number of 86,000 which so excited our fears represents a number of men which various overworked, perhaps excitable and pretty certainly not especially skilled medical men thought might have tuberculosis, which is a very different thing from really having that disease in a manifest form.

When 3,000,000 men were suddenly mobilized in the face of an enemy who was rapidly advancing on their capital, there was naturally no time for examinations. Every man able to bear arms at all was wanted at the front, sick or well, and, it is said, many a consumptive welcomed the oportunity to lay down his life for his country on the field of battle rather than to die ingloriously a lingering death in his bed. Under these circumstances, it is small wonder if there were many cases of tuberculosis among the French soldiers; the cases among them of really active tuberculosis are probably no more than might have been expected in view of the prevalence of tuberculosis in France before the war. But this is a very different thing from the view that has been so widely held in this country that the conditions of modern military service are such as necessarily lead to widespread extensions of tuberculosis among soldiers who seemed to be, perhaps were, well when they entered the service. Such evidence as we have from other quarters points distinctly to the fact that military service, on the contrary, is beneficial rather than the reverse for men with old, arrested tuberculous lesions. That has been the experience in the British army; and with reference to the German army it has been stated, as I have had occasion to remark elsewhere, that the need for men has made it necessary to accept for enlistment persons with healed or inactive tuberculosis, but many of them have made excellent soldiers; further, that while open cases of tuberculosis, or such as give evidence of an active process, must be exempted, men with old, inactive, cirrhotic forms can, under certain conditions, be regarded as fit for military service. And Goldscheider demands that only men with active tuberculosis from the army should be taken into sanatoriums, regarding as insufficient for a diagnosis vari-

1. Rist, E.: Mil. Surgeon, 1917, **41**, 659.

ous signs frequently adduced as indicative of early tuberculosis. The development of tuberculosis under the stress of war conditions is, of course, a much more serious matter when to fatigue and exposure is added hunger. Soldiers are well fed, but the civil population of the invaded areas, and the half starved prisoners of war, have suffered severely from tuberculosis.

We see, then, that an army like the British, and like our own, which has been carefully examined with a view to the elimination of cases of active tuberculosis, can reasonably expect to remain free of any alarming development of the disease under the conditions of active service. Certain cases there will be; there is what is called the inevitable percentage of tuberculosis arising in men whose low resistance and feeble reactive powers cannot be measured in advance by our methods of examination. We must be prepared for, say, about two cases of this kind per thousand men.

THE BENEFICIAL EFFECT OF ARMY LIFE

It seems to me quite time to look on the bright side of this question. According to recent teachings, we all have a little tuberculosis. This little tuberculosis, however, in 60 per cent. of the community results only in a beneficent immunity and does not by any means always lead to a fatal issue in the remaining 40 per cent. Those that die of tuberculosis are largely the weaklings, the men of poor development, the dissipated. That any man who enters the service in robust health runs serious danger of developing tuberculosis as a result of the life of a soldier, I do not believe. Indeed, may we not also consider briefly the bright side of another subject — the effect of military service on the health of the soldier? Any one who has observed the effect of the early military training on the average recruit from civil life will have been astounded at the rapidity of his transformation. The regular life in the open air, the abundant sleep and exercise, the strengthening food, lead to a rapid and visible improvement in health in the majority of cases. The untrained boy is rapidly changed into the hardened veteran who returns from his army experience a stronger man for the remainder of his days. Even under the hard conditions of trench warfare, those who escape wounds, when they have become inured to the conditions, enjoy robust health. To be outdoors constantly, even though the life involves much hardship, is the best means for securing a robustness of health which we city dwellers do not know in our luxuriously heated abodes. Therefore, while, in spite of all the efforts of the enlightened sanitary officers, some weaklings will fail and the inevitable epidemics of measles and other camp diseases will disturb, on the whole and in the long run, army life in campaign tends to create and maintain a vigorous and robust army.

I am, as may be seen, an optimist about army life, and I believe that experience justifies this point of view. I am especially optimistic with regard to the effect of army life on those persons who present evidences of an old, slight, healed tuberculosis which, in my judgment, if of small extent, is an evidence rather of an immunizing reaction than of tuberculosis in the sense in which that term is usually employed. After all, what an army most needs is men. It would be a great misfortune if all men with slight indications of old pulmonary lesions were excluded from its ranks, for such minute changes as those I have just mentioned are wellnigh universal among our population. Mistakes in diagnosis cost the French army the services of a division, perhaps two divisions, at a time when men were sorely needed; but perhaps these mistakes will have resulted in good for our army, if we can learn from them the much needed lesson that they bring, the lesson not to make the diagnosis of tuberculosis until adequate reasons exist for forming that diagnosis.

EXTENSION OF THE BENEFIT

The benefit derived from this clearing-up of the tuberculosis situation need not be limited to the army. I look to see a juster view prevail as to the diagnosis of early tuberculosis in the medical practice of civil life. Perhaps the best idea of what I have in mind may be obtained if we take the question home to ourselves. I feel rather strongly about this, for I myself have spent six months in physically harmful idleness under the diagnosis of an active tuberculosis resting on the erroneous interpretation of normal physical signs. Suppose that you, sir, are told that you must give up your business which so much requires your attention, and spend the winter in Arizona; that you, madam, are required to leave at once your children and your social duties to live in a hired cottage at Saranac; that you, young man, the support of a widowed mother, must lose your position in order to take up sanatorium life. Such changes are trying enough if necessary; how doubly trying if they are not really necessary, if the fateful diagnosis depends only on signs, the importance of which is exaggerated, or the significance of which is misinterpreted. Understand me, I am not attacking the diagnostic ability of your physician. The fact that you are here today is sufficient evidence, perhaps, that he does not hold the views which are questioned by me. I simply give this as an illustration of the untoward results which are to be expected if one yields to the oft-repeated demand that every man showing the slightest evidence of pulmonary change shall be eliminated from the army. If the civilian is wrongly said to have tuberculosis, the evils of the error are largely confined to a narrow circle. If the same mistake is committed in army practice on a large scale, the efficiency of the army is impaired and the safety of our beloved country is threatened.

But perhaps some one will say, Why trouble us about matters over which we have no control? If I have thus taken you into my confidence, it is done in order that you may understand the situation as I see it, and be helpful in another matter. If you are convinced that slightest variations from an assumed normal in the lungs are not necessarily signs of an impending doom, you can do your part to discourage the prophecies of evil, the dark forebodings as to the extreme peril of our troops so far as infection with tuberculosis is concerned. Such prophecies and forebodings are not only unwarranted, they are unpatriotic. One can hardly render better service to our enemies than by discouraging our soldiers. No army has ever been more thoroughly examined than ours, or more carefully watched over by experts along many lines. Many of the best men of the medical profession are sacrificing their private interests, and laboring without cessation, in order that every preventable disease may be kept from our soldiers. I believe that they will succeed in this, so far as it is in the power of modern science to command success. I therefore look forward with confidence to the future and call on you as true patriots to help us by your faith and your optimism.

A ROLLING CRUTCH

PRELIMINARY REPORT *

ROBERT G. HALL, M.D.

PORTLAND, ORE.

The present form of crutch, with only slight modifications, has been used since antiquity. At least no change in the mechanical principles involved has been made. When a step is taken, the tip is at a fixed position on the ground, and the crutch, as a radius, revolves about it. As a result, the motion at the shoulder follows the form of an arc, first rising and then falling with each step. Thus, for a man using a 55-inch crutch, if his weight is 180 pounds and he takes a 2½ foot step, he will rise and fall 2 inches, which means that 30 foot pounds of energy are wasted at each crutch step. Again, the crutch step is shorter in one way, than the normal foot step, for in the latter the man lands on his heel and takes off from the ball of his foot about 8 inches further forward, while in the crutch he gains only the width of the rubber tip, or about an inch and a half.

I have devised a rolling crutch which I believe has many advantages over the old form. I reproduce in metal the shoulder curve of the crutch as it rotates, and apply this metal arc in the form of a rocker to the base of the crutch. When such a crutch is used the upper end travels in a straight line. This has been proved both theoretically and practically. This arc or rocker applied to the base of the rolling crutch is the arc of a circle whose radius equals the length of the crutch. In actual practice I have taken as a radius of my arcs a line an inch and a half longer than the crutch so as to have the center of rotation at the middle of the shoulder joint.

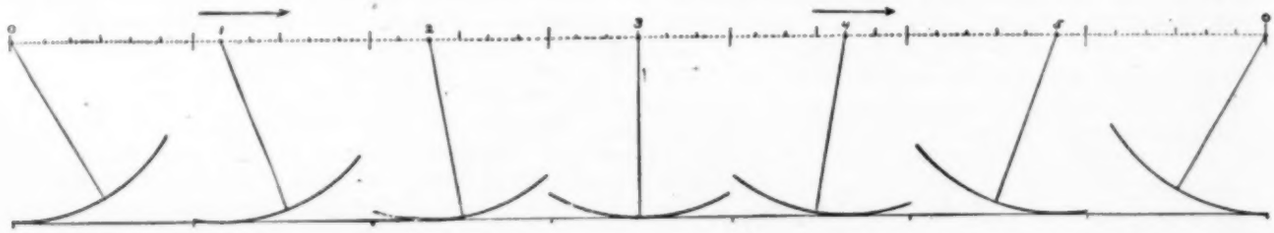

Fig. 1.—A moving-picture representation showing just how the rolling crutch works. The figures at the top represent the position of the shoulder, and show the amount and direction of motion of this part. For purposes of illustration the shaft of this crutch is greatly shortened. The crutch rolls from left to right.

The use of the rolling crutch transfers the center of rotation from the ground to the shoulder joint, and thereby procures for the cripple a smooth and efficient wheel-like forward motion instead of the jerky, up-and-down hobble so characteristic of the old crutch. At present the man is stumping along on the spokes of a rimless wheel, but this rolling crutch puts a rim on the wheel, greatly to his advantage.

The rolling motion is just like that of a wheel, and in Figure 1 the successive stage of this are shown. A crutch of the second pair made up, and a very practical one, is shown in Figure 2. This consists of a reinforced crutch fitted with a metal arc made of thin double-flanged iron 14½ inches long. Two quarter-inch steel rods are welded to the ends, and these are attached to the stick as shown. The base of this arc is three-quarters inch wide and is covered with a piece of nonskid bicycle tire which is cemented to it, the ends being bound on with fine piano wire. The curved lines above the crutch are actual tracings of the path of the top as it rotates or rolls. The lower line represents the path of the ordinary crutch of the same length as the crutch here shown. The upper line designates the course of the rolling crutch. The top of this curve is formed by a plateau 14½ inches long, and then the curve of the old crutch begins. It is as if the circular curve of the old crutch were cut at its highest point, the parts pulled 14½ inches apart and joined by a straight line. The metal handle to the left will be discussed later. The stability of these crutches is shown by the fact that they stand alone when leaned together, the weight of the metal handles simply rolling them a little from the vertical. Figure 3 shows a folding crutch with an arc 31 inches long. The folding is accomplished by joints made of portions of hinges welded to the metal arcs and the supporting rods. The curved lines at the top show the actual tracing of the motion of the top of this crutch as compared to that of an old crutch. Here the plateau is 31 inches long. Figure 4 shows this crutch folded for down-town use. The arc at the base is only 12 inches long, but even this adds over 10 inches to each step.

With the ordinary crutches and with the rolling crutch I walked a measured distance of 200 feet, using a moderately long step in each case. With the old crutch seventy-five steps were taken, including both normal leg and crutch steps. With the rolling crutch sixty-four steps covered the distance. This shows a saving of about 14 per cent. in the number of steps taken in favor of the rolling crutch. When we consider that half of the steps taken in each test were normal leg steps and about equal, the distance gained is made by the superior efficiency of the thirty-two rolling crutch steps over the thirty-seven common crutch steps. This virtually amounts to 28 per cent.

The first pair of rolling crutches that I had made had an arc measuring 30 inches (Fig. 5), and folded up to an ordinary crutch with a base only an inch wide. With these opened and folded I paced off the 200 feet. With the old crutch form I took seventy rather long steps, while with the rolling form I made it in fifty-three, using similar steps. This effected a saving of 24½ per cent., including the similar leg steps in each case. By elimination of the latter, virtually an increase of 49 per cent. in the length of crutch step is gained when the roller is used. These rough tests show that the rolling crutch does add to the length of the crutch step in a practical way.

The disadvantages of these crutches are obvious: 1. They are cumbersome and apt to get in the way of other people. 2. They are heavier than the old crutch. 3. They are more expensive. 4. They are more complicated.

* Demonstrated Dec. 5, 1917, and Jan. 2, 1918, before the Portland City and County Medical Society.

ADVANTAGES

The advantages are less obvious at first sight, but are numerous and fundamentally important. I shall take these up in order and discuss them briefly.

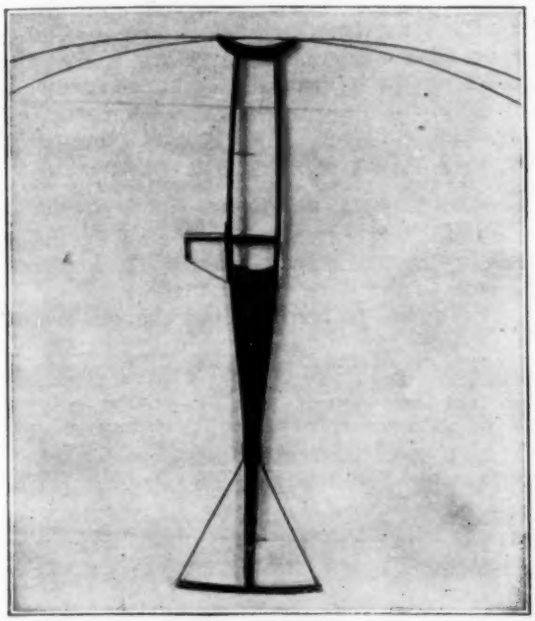

Fig. 2.—A strong, practical crutch 54 inches long, bearing a rim 14½ inches long at its base. The arc of the rim is drawn with a 55½ inch radius. The crutch weighs 3 pounds 13 ounces, whil a similar crutch of the old style weighs 1 pound 10 ounces.

1. The motion at the axilla is all or mostly—depending on the length of the arc—in the direction of progress. The upper curves in Figures 2 and 3 show this.

2. A longer step is possible with the same length of crutch, and this is as much longer than the ordinary crutch step as the rocker used is longer than the rubber tip.

3. A more direct support of the body is provided at all stages of the step. Figure 6 demonstrates this. Here the braced tip of the rocker is seen to be directly under the piece that supports the shoulder. As the crutch is constructed with all parts of the rocker equidistant from the point of rotation at the head of the humerus, it is evident that the user will have an effective, weight-bearing support directly under the axilla at all stages of the roller step.

4. Direct participation of the arms in the entire forward step is possible. If the patient bears his weight on his hands, as most do, and grasps the metal handles in front of the usual ones, his weight alone will cause the crutches to rotate in such a way that he will move forward. This procedure is helpful against a wind, over rough ground, and especially up hill. If the man releases the crutches and turns about 180 degrees, the extra handles will be behind the usual ones, and if he now grasps them, the weight of his body tends to retard the forward rotation of the crutch and helps very much in going down hill. Similar extra handles could be applied with advantage to the common crutch.

5. At each end of the rolling step the crutch acts like an ordinary crutch, but only the most efficient portion of the curve (the nearly horizontal one) is used. Figures 2 and 3 show this best. In these a short line across the upper curves shows where the roller effect stops and the old crutch curve begins.

6. For the same length of step a better angle is obtained with the ground. In Figure 6 the positions of both crutches are compared at the beginning of a step. Measurement shows that the angle of the effective support of the rolling crutch with the ground is 88 degrees, while that of the old crutch is 72 degrees, or 16 degrees more acute. It is obvious that the latter angle tends to cause slipping when the weight of the body is applied to the old crutch. Thus at all stages of the step the rolling crutch is the more secure.

7. Reaching is eliminated largely by the use of the new crutch; instead of this the arc is simply swung forward and the curve does the rest. Figure 6 shows this advantage of the new crutch graphically; for a step 31 inches long the new crutch eliminates a reach of 2 inches. This does away with the limp effect.

8. There is less sinking in the soft earth or snow. I have the tip of an old crutch buried 7 inches in my lawn, but the roller simply cut in a very little in traveling over the same ground. The slight curve of the rocker does not allow it to sink. This point was brought to my attention by a one-legged man who was trying the crutches.

9. The curve of the roller on these crutches is so slight that uneven ground may be traveled over more easily than with any wheel in common use. The diameter of the circle whose arc is used is over 9 feet; the arc, therefore, bridges small depressions in the ground, and thus, as far as it goes, at least, has the advantage over other wheels.

10. Great stability is obtained with these crutches in two ways. First, if all parts of the arc are equidistant from the center of rotation at the shoulder, a man resting on these crutches can no more tip forward or backward than a wagon wheel can roll of itself. Again, stability is controlled very well by the use of the arms when the anterior or posterior metal handles are used.

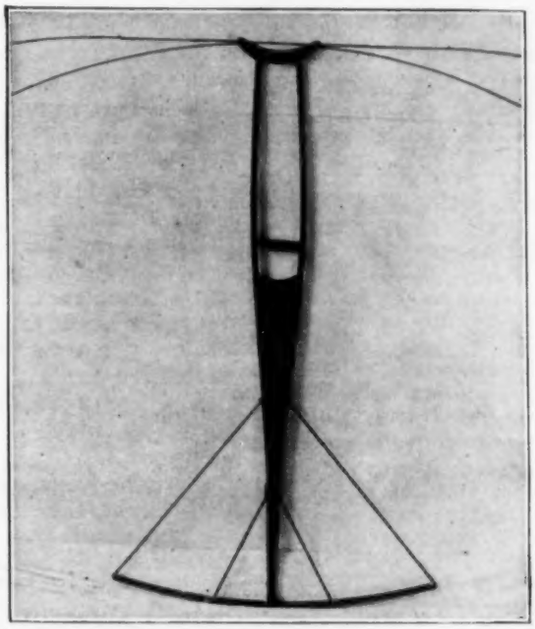

Fig. 3.—The long arc, folding crutch. It weighs 4 pounds 10 ounces. The arc is 31 inches long in this form and 12 inches long when folded.

11. By a simple variation in the curve of the roller or a slight change in the angle that the roller bears to the staff part of the crutch, the crutch step may be converted into a down-hill roll. If the back portion of the rocker is so adjusted that the surface of the arc is an inch farther from the center of rotation than the front end is, this effect will be accomplished. Figure 5 is a diagram of a crutch of this type with the difference in the length of radii exaggerated to bring out the effect more strikingly. The right support is shorter than the left, and this allows the patient to roll down hill to the right with each step. For going down hill the man should face about, and then the slight up-hill roll will in some measure counteract the down-grade effect. In this pair of crutches, further, the handles are curved, and one may grasp them either forward or back, and thus get the effect obtained with the metal handles. The first pair of crutches I made up are like these, but they fold into an ordinary crutch. It may be noted that in Figure 5 these crutches stand in a position as if they were rolled to the right, or toward the shortest radius of their arc.

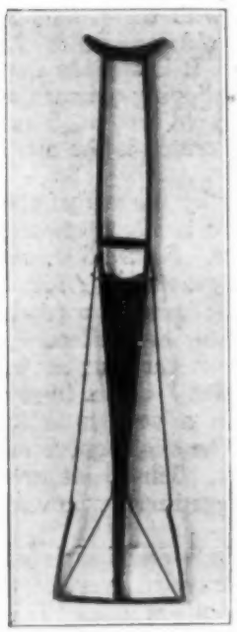

Fig. 4.—The same crutch as in Figure 3 folded up. The arc here is a foot long.

12. The jar occasioned by the crutch step is less. This is due not only to the fact that the reaching is largely eliminated, but more especially to the fact that when the weight of the body first is brought to bear there is a considerable stress on the whole crutch; this makes the latter spring a little and takes up the jar.

13. Going *up and down* stairs is both safer and easier with the rolling crutch. On the stairs the man walks on the tips of the arcs, leaving the arcs themselves projecting over the stair below. By keeping the extra handles on the up-stairs side of the crutch, the arms exert in both ascending and descending a tendency to roll *up*, which is advantageous.

Fig. 5.—Diagram of a crutch showing in an exaggerated form one that rolls forward or to the right. The left arm is longer than the right. The center of curvature of the arc at the base is at the dot to the left, while the center for the handle is the small dot above the shoulder rest.

The one-legged men that have tried these crutches assure me that they are a great improvement over the old form. These rolling crutches have been worked out so recently, however, that more actual use by cripples is necessary to test their practicality. To me the motion is a long, gliding one; and from my use of them over rough ground, up hill and down, as well as over soft earth and slippery pavements, the performance fully justifies the long list of advantages described above.

This rolling step idea can be applied further, and I have now made up a rolling perineal crutch, a foot extension, a leg brace, a plaster cast of the leg and foot, an artificial leg, and even a cane, all made with a roller of varying lengths. All the leg appliances are made up with a curve whose radius is equal to the distance from the hip joint to the under surface of the rolling arc. All these work in the same way that the crutch described does. The limp is eliminated, and a long, easy, rolling, efficient step is taken.

SUMMARY

By reproducing the curve of rotation of the top of an ordinary crutch in metal, and firmly applying this to the base of the staff, I have made a rolling crutch. This is the sector of a wheel, and changes the motion at the shoulder to a simple straight-line progression in the direction the person is traveling. The crutch-step is made longer, more even, more secure, and far more efficient. In view of the great needs of the near future, I hope that some of these ideas will be tested out by others more competent; for I believe that with life and limb menaced by machinery and war as never before, there will be a place for the rolling crutch.

Fig. 6.—The folding crutch, compared with an ordinary crutch of the same length. The advantages of the former in length, angle with the ground, length of step, etc., are apparent. The line above shows a tracing of the path of the roller as the top moves forward.

616 Morgan Building.

Urine of Reptilians.—Vauquelin, in reporting the first analysis of reptilian urine, in 1822, stated that it was composed almost entirely of uric acid, and since that time this fact has been interpreted by various observers as an adaptation of life to the conditions in arid regions, where animals obtain their only external water supply in very limited quantities in the food substances, as this type of nitrogenous excretion involves practically no loss of water. The reptiles of arid regions have been known for some time to excrete practically all of their waste nitrogen in the form of uric acid and its salts, while, on the other hand, birds and aquatic and semiaquatic reptiles may excrete considerable amounts of urea.—A. O. Weese, *Science.*

DYSTROPHIA ADIPOSOGENITALIS (FRÖHLICH'S SYNDROME)

REPORT OF CASE

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History.—A boy, aged 10, was brought to the Providence Psychiatrical Dispensary for general mental backwardness. He was the first born child. He was followed by a brother born at about the eighth month, who died when 2 weeks old. The next birth was a miscarriage, after which there were no more pregnancies. Venereal disease in the father or mother was denied. The family history of the father was negative. On the mother's side there was a history of various abnormalities. Her father had four brothers and three sisters, two brothers and two sisters being normal, while the other two brothers were described as having deformities of the feet, one of them also having some kind of convulsive seizures; and the other sister went blind at about 30. The mother of the patient was one of seven normal children. She had one maternal aunt and five maternal uncles, all normal.

Fig. 1.—Patient, showing the typical adiposity of adiposogenital dystrophy, and the "maxillary prognathism," or, rather, retarded development of the mandible. The upper lip overhangs the lower.

In brief, then, we have a family history which is negative excepting the mother's paternal relatives, suggesting a defect in the germ plasm, which might be a mendelian recessive. This is confirmed by the fact that a daughter of the above mentioned aunt married a man whose ancestry is perhaps suspicious (his father died of "creeping paralysis" at 66), and their only child has had from birth an incurable chorea with spasticity of the legs, and though 8 years old, has never spoken.

The patient was a full term child, with normal delivery. His mother does not remember when he cut his first teeth, but he first walked and began talking at about 5 years of age. He did not stop bed wetting until after his ninth birthday. He had "typhoid pneumonia," as the mother describes it, when 2½ years of age; chickenpox when a baby; measles and whooping cough when 9. The present condition dated back apparently to birth. The child was only 3 or 4 months old when the father noticed the jerky movements of the eyes. He never complained of headache or any pain, and there was no history of vomiting that would lead one to suspect intracranial pressure. He had never been able to see, but played about his home in the county with ease, and at first sight one would not notice that he was blind.

Fig. 2.—Patient, showing the typical adiposity and the genital dystrophy.

Physical Symptoms.—What struck the eye on looking at the patient was the general appearance: the excessive fat for a boy of his age, the feminine form and tapering fingers. When we add to that the fact of his blindness and find that he has a genital aplasia, we have the cardinal symptoms of Fröhlich's syndrome—dystrophia adiposogenitalis.

The symptoms are grouped according to Cushing's scheme:

1. Neighborhood Symptoms: There were no subjective discomforts that could be ascertained. Conversation with the patient, owing to defective speech and reduced mentality, was difficult, and there may have been more subjective symptoms than one would suppose.

There was deformation of the sella turcica. The roentgen ray revealed a flattened sella with the posterior clinoid processes destroyed and the anterior pressed down, suggesting a tumor of the hypophysis originating in the sella and growing up out of it and then pressing down on the clinoid processes.

There were evident visual disturbances. Only perception of light remained. The papillae were much reduced in size and very white. Dr. Henning, an ophthalmologist in Washington, made the following note: "Optic nerve presents a gray white atrophy of nerve head with small vessels. Retina has mottled appearance like a terrazzo floor, with small pigment lumps scattered irregularly and sparsely." There was no exophthalmos, but the eyes were deep sunken in the orbits. There was now a slow lateral nystagmus, which had been much more rapid several months before.

Nasopharyngeal symptoms were noted. Cushing mentions cerebrospinal rhinorrhea as an occasional symptom of pituitary tumor. The mother reported, in this case, a constant somewhat excessive discharge of a clear watery fluid, which of late had somewhat subsided. In the absence of laboratory examinations, one cannot lay much stress on this symptom.

2. General Pressure Symptoms: The classic pressure symptoms, headache, vomiting and choked disk, are absent. Taking this in connection with the chronic course of the disease, one would expect a benign tumor, which could probably be removed by operative interference.

3. Glandular Manifestations: The boy was 137.2 cm. (4 feet, 6 inches) tall. This means that he was about 6 cm.

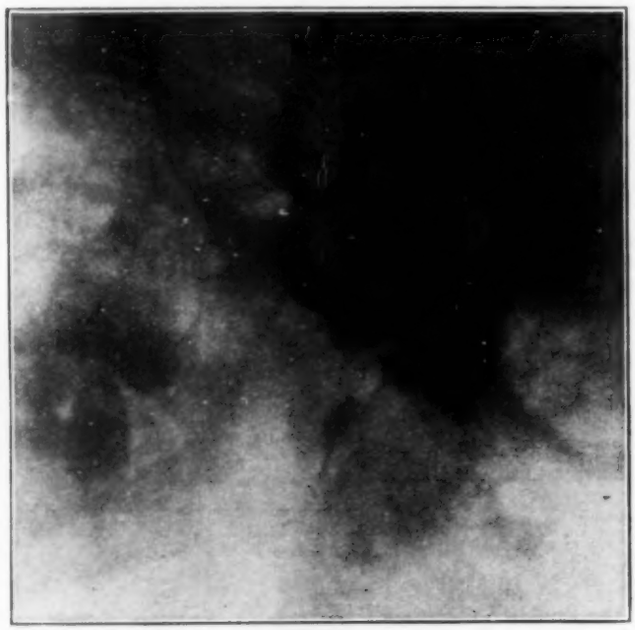

Fig. 3.—Appearance of sella turcica of patient: destruction of posterior clinoid processes, and the anterior process apparently pressed down.

above the average height for 10 year old boys. This excess of growth might be due to a hyperfunction of the pituitary at some time in the patient's history.

The other symptoms pointed to a hypofunction of the gland—the tapering extremities, the marked and typical adiposity. The features were fine, and the skin was smooth, delicate and dry. The hair was abundant on the scalp, but was elsewhere lacking. The condition of the crines, however, was not of such diagnostic importance in a boy of 10 as it would be in an adult.

Another symptom that pointed to hypofunction of the gland was the *maxillary* prognathism as opposed to the *mandibular* prognathism of acromegaly. If one looked at the patient's maxilla and mandible, it was evident that the condition was not "due to any forward displacement of the sphenoid," as Cushing[1] supposes, but rather to retarded development of the mandible. The circumference of the head was 50.6 cm. (19 9/10 inches)—about 2 cm., therefore, under the normal of 52.6.

The boy was not in the hospital long enough for a sugar tolerance test.

There was a marked polydipsia. A history of polyuria could not be obtained.

The temperature was normal. The blood pressure was 112 systolic, 70 diastolic.

In testing the mentality of the child, it was found that he could recognize many common objects by touch, repeat three numerals, and place the objects of the form board in their proper position by trial and error.

4. Symptoms Referable to Other Glands: There was a marked sexual aplasia that must have originated in a prenatal disturbance of growth. The penis was rudimentary, but rather large for clitoris. The mons veneris was very pronounced. The testicles were not descended, and a kind of scrotal membrane covered an "open space." The breasts were definitely developed, with evident mammae.

1. Cushing, Harvey: The Pituitary Body and Its Disorders, Philadelphia, J. B. Lippincott Company, 1912, p. 256.

The thyroid gland was enlarged, palpable, and of rather firm consistency. The pulse was not accelerated; it was about 80 at the time of the examination.

The suprarenals were not seriously involved, although there was a dirty bronzing of the skin.

Over the sternum, just below the clavicle, there was an area of dulness, extending distinctly to the left, which merged into the cardiac dulness below. This might be due to an enlarged thymus.

There was no evidence of the involvement of other glands.

In 1901, Fröhlich[2] described what he termed "a case of tumor of the hypophysis without acromegaly." The cardinal symptoms that he pointed out were (*a*) adiposity, (*b*) genital dystrophy, (*c*) falling out of the hair after the onset of the disease, and (*d*) atrophy of the optic nerves.

In the later literature, this syndrome became known as dystrophia adiposogenitalis. The condition is associated with a tumor of the hypophysis or one in its neighborhood.

In 1908, Bartels[3] discussed the relation of the changes of the hypophysis to dystrophia adiposogenitalis. He mentions these three theories to explain this relationship:

1. Both tumor and dystrophy are due to inborn, coordinate germinal dispositions (*Keimanlagen*).
2. Changes in the hypophysis, due to the tumor, account for the dystrophy.
3. Not the changes in the hypophysis, but injury of a neighboring center at the base of the brain causes the changes.

Bartels adopts the first of these hypotheses.

The studies of Cushing render it abundantly evident that changes in the pituitary are frequently the cause of the dystrophy. But the cases which produce this evidence have their onset rather late in life.

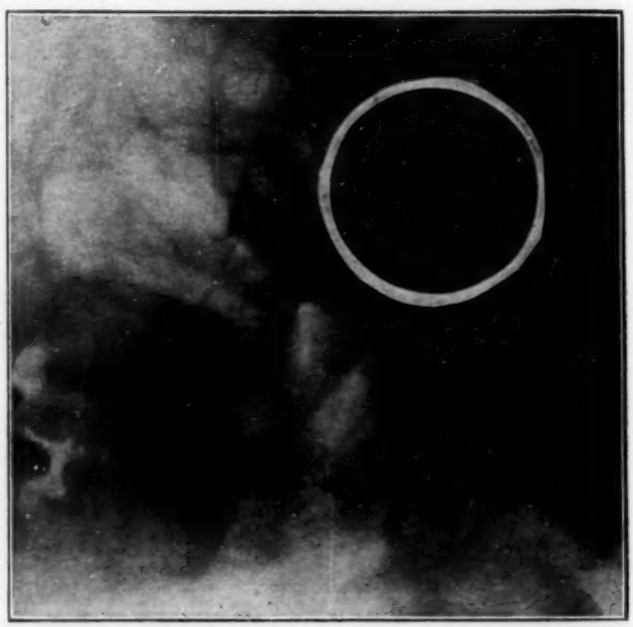

Fig. 4.—Normal sella turcica, with outlines dotted for comparison with Figure 3.

There is perhaps room for a small number of cases whose origin is prenatal, and in which a hereditary

2. Fröhlich, Alfred: Ein Fall von Tumor der Hypophysis cerebri ohne Akromegalie, Wien. klin. Rundschau, 1901, **15**, 883-886; 906-908 (references to fifty-six articles on the subject).

3. Bartels, M.: Ueber die Beziehungen von Veränderungen der Hypophysengegend zu Misswachstum und Genitalstoörungen (Dystrophia adiposo-genitalis), München. med. Wchnschr., 1908, **55**, 201-202.

factor may be detected. In these, both the tumor and the dystrophy may be due, as Bartels maintains, to an inborn coordinate germinal disposition.

The present case suggests precisely this possibility because:

1. There is a hereditary taint, suggested by the number of deformities in the mother's paternal relatives, and by the appearance of a cerebral defect in one of her paternal relatives who married a man of suspicious ancestry. All this goes to suggest a mendelian recessive.

2. The origin of the case is prenatal. The reasons for this are: (*a*) the assertion of the parents that the child never saw; (*b*) the fact that the father noticed the nystagmus when the child was only 3 or 4 months old; (*c*) the fact that the genital aplasia is such that it must date well back into the prenatal history of the child, and (*d*) the very small optic disks.[4]

ANTHRAX

A CASE OF B. ANTHRACIS SEPTICEMIA WITH RECOVERY

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AND
HERBERT K. DETWEILER, M.B. (TOR.)
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Anthrax infection in the human being occurs with considerable rarity; but the instances in which the organisms are demonstrable in the circulating blood are very rare indeed. In this communication we describe in detail a case in which an anthracemia was present, followed by recovery.

The relation of human infection to animal infection has been established for many years. The path of infection lies through the medium of animal products, principally hides, of which those coming from China and Argentina furnish the most prolific source. The sites of the initial lesion in the human being are either cutaneous, pulmonary or intestinal. Of the cutaneous lesions, those arising in the neighborhood of the neck are most serious. In such instances collected[1] between 1899-1904, 40 per cent. led to a fatal issue. This may be explained by the presence of a very marked and far-reaching edema, which characterizes the fourth stage of clinical anthrax. The proximity of the respiratory passages makes the danger from edema in this area obvious.

The tendency of anthrax in man is to remain localized, but penetration may occur into the blood stream at any time and give rise to a fatal septicemia.[1] In searching the literature one is impressed with the lack of definite information regarding the results of blood cultures. No statistics of any value are obtainable on this point. All writers, however, seem to be agreed on one point, namely, that a septicemia is to be regarded as leading to a fatal termination in the vast majority of cases. While we have found[2] in the literature only one instance of anthracemia followed by recovery, we do not consider it likely that this case is the only one successfully treated, particularly in view of the apparent lack of laboratory investigation in many of the cases reported. It is the usual thing to find the various authors dealing only in generalities; and while we meet such statements as "The majority of anthracemias are fatal," [3] the authors cite no definite cases of recovery.

The course of cutaneous anthrax may be divided into four stages, which are briefly:[1]

1. The presence of an insignificant wound with no sign or evidence of danger, which may remain as such for two or three days.

2. The appearance of a small pimple with a vesicle filled with a clear or blood-stained brownish fluid containing many bacilli, accompanied by the pricking or itching of the vesicle. This stage may last for from twenty-four to thirty hours.

3. Marked induration of the tissue underlying the vesicle, which has become flattened and has a livid color, marking the beginning of necrosis, which is surrounded by an edematous ring on which are formed vesicles which may coalesce. In the central dark eschar there are many bacilli. This stage lasts from one to two days.

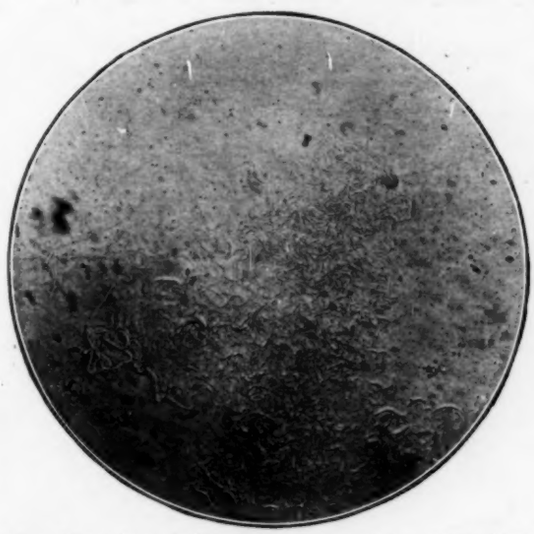

Fig. 1.—Gross picture of growth on agar plate, with typical "doll's hair" margin.

4. More or less rapid increase of the dark slough along with the edema. The latter may be extensive and very widely spread. Here, because of secondary infection, it is difficult to demonstrate bacilli. The size of this area is variable, and it bears no relation to prognosis.

REPORT OF CASE

E. M., man, aged 36, a tanner, admitted to the Toronto General Hospital under Dr. F. N. G. Starr, 8:30 p. m., Nov. 23, 1916, complained of a sore on the left anterior triangle of his neck, with swelling of the left side of the face and neck, extending down over the front of the chest to the junction of the third rib with the sternum.

November 20, he was working more closely than usual with the hides, and in the soaking process he was exposed a good deal to the dust arising from the handling. In the sweating process he often scraped the hides with his thumb-nail to determine the progress of the separation of the hair. He also had a habit, when worried, of stroking his neck

4. In addition to the references already given, the following will lead one to the rather extensive literature on this syndrome:
Mattiolo, G.: Contributo alla conoscenza della distrofia ipofisgenitale, Riv. di Patol. nerv., 1914, **19**, 513-529 (reports of three cases; a good bibliography).
Strauch, August: Infantilism, Am. Jour. Med. Sc., 1914, **148**, 247-266 (general article with good bibliography).
Waltzfelder, Eduard: Implantation of Pituitary Gland in a Case of Congenital Genital Adiposity (Dystrophia Adiposo-Genitalis), New York Med. Jour., 1914, **100**, 1002-1004.

1. Encyclopaedia Medica, 1915, **1**.

2. Bromet, E. A.: Case of Anthracaemia with Three Separate Points of Inoculation on the Right Arm; Recovery, West London Med. Jour., 1901, **6**, 129.

3. Kolmer: Infection, Immunity and Specific Therapy, 1916.

with his left hand. On the night of the 20th he shaved, and on the morning of the 21st he noticed a ridge half an inch long at the midpoint of the anterior border of the sternomastoid muscle, the surface of which was intact. The skin around it seemed a little thickened, and when he squeezed it between his fingers a little serum escaped. On the morning of the 22d, it had a hard top as large as the end of his thumb, and it began to feel sore. In the afternoon, when the top was removed by his physician, a little hard, dead tissue was found, but no pus. In the evening he had an elevation of temperature, pain in the back and a headache. On the morning of the 23d the area was more painful, and the ridge extended down to the thyroid cartilage. There was no swelling on his chest or his cheek. In the afternoon he left for Toronto and, on his way down, the swelling extended down over his chest and up over the side of the face.

Condition on Admission.—The patient's temperature was 99, and the pulse 105. A sloughing area the size of a quarter was present over the midpoint of the sternomastoid muscle. The skin was hard and brawny, which condition extended well down on the chest and up on the face. Forty c.c. of anti-anthrax serum were given subcutaneously, and the tissues surrounding the sloughing area were injected with 40 per cent. alcohol. A culture was also made from this area. Considerable mucus in the throat, the result of the widespread edema, caused a good deal of irritation.

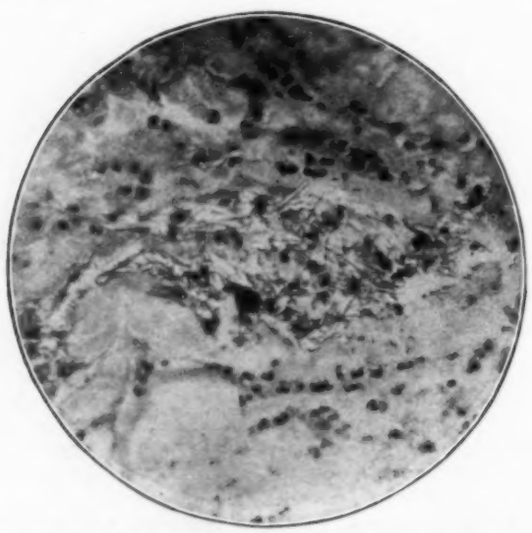

Fig. 2.—Large number of bacilli in tissue removed.

Progress.—November 24, in the morning, the temperature was 103.7 and the pulse 140. The edema had increased locally and was more widely spread. The respirations were very labored, owing to the increase of mucus in the larynx. A wide local excision under general anesthesia was performed, and alcohol was injected around the margins. Steam inhalations of compound tincture of benzoin were administered. The cultures taken the previous day yielded *B. anthracis* (Fig. 1), and sections of the tissue showed many bacilli (Fig. 2).

November 25, the pulse was from 132 to 146, and of very poor volume. The temperature ranged from 102.3 to 104. Twenty c.c. of anti-anthrax serum were administered subcutaneously.

November 26, the pulse and temperature remained about the same. Respirations became more labored. The patient became very restless and nervous, and could not sleep. A blood culture was taken.

November 27, the general condition had not improved. The edema became much worse over the face, neck and chest, and had extended to the upper part of the left arm, the whole area looking very red and acutely inflamed. The blood culture revealed the presence of the bacilli in the circulating blood. At 1 p. m. we gave 100 c.c. of chloramin-T (Dakin) along with 80 c.c. of anti-anthrax serum, intravenously. At 1:30 p. m. the patient had a severe chill which lasted fifteen minutes; the pulse was 130, and the temperature 104.2. At 5:30 p. m., the patient was sleeping with a pulse of 114 and a temperature of 101. At midnight the pulse was 100 and the temperature was 99.4.

November 28, another blood culture was found to be negative. The evening pulse rate was 98; temperature was 100.

November 29, the maximum temperature was 98.4, the pulse 92. The patient slept a great deal, and his breathing was much more comfortable. A blood culture proved to be negative.

From this date the patient's convalescence was uneventful, no untoward symptoms manifesting themselves. The wound was exceedingly slow in healing, a black, leathery eschar having formed over the wound which did not disappear for seven weeks and then only when digested with a papain preparation. It was impossible to separate it by means of forceps. The edema persisted for even a longer time before it disappeared.

COMMENT

The points of interest in this case are:

1. The way in which the disease exhibited the characteristic four stages of cutaneous anthrax.

2. The persistent increase in symptoms, and the presence of *B. anthracis* in the circulating blood, despite local excision and subcutaneous injection of serum.

3. The sudden response to intravenous use of chloramin and serum in large doses, resulting in negative blood culture in thirty hours, and remaining negative despite the fact that no further specific therapy was used.

4. The persistence of the edema of the skin and the slow healing of the wound.

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NONROTATED ILEUM WITH FATAL INTESTINAL OBSTRUCTION

DUE TO OCCLUSION OF THE ILEUM BY THE OVERRIDING COLON

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The unique anatomic relationship of the terminal ileum and the cecum and ascending colon is the reason for reporting this case of fatal intestinal obstruction. The condition present resembled in a general way the condition found in mobile colon, except that the ascending colon had overridden and become secondarily adherent on a coil of the terminal ileum. Still other coils of the ileum lay to the right side of the ascending colon and cecum. Or, conversely, this part of the ileum failed to rotate and descend, whereas the cecum did so to the usual extent.

The dominant features of the anomaly were as follows: About 30 inches from the termination of the ileum in the ileocecal valve, the ileum passed under the posterior parietal peritoneum and ran upward and outward to a point 2 inches below the hepatic angle of the colon. There it turned sharply outward under the colon and emerged on its lateral side, acquiring a mesentery, and then coursed downward, describing several loops to the outer side of the ascending colon, and passing around to the left of the cecum, entering the ileocecal valve in the usual way. The head of the cecum was normal and free from adhesions, and the appendix was free and normal in color and size. A Meckel's, or true, diverticulum, 3 cm. long, with free end, lay parallel to the colon. It was given off from

the ileum an inch and a half after its emergence from under the colon. The diverticulum was constricted at its base and again at a point half way to its tip, which tapered to a blunted end. There was no band or other connection with the umbilicus. There were redness and swelling, and there were some adhesions of the diverticulum to the surrounding structures. The caliber of the ileum on the proximal side of the diverticulum was smaller than just beyond it. The ileum, after passing beneath the posterior parietal peritoneum, was collapsed, whereas the remaining or free portion was dilated to about the diameter of the colon. The retroperitoneal portion was crossed by a number of fibrous bands, which may have caused the obstruction. At any rate, the bowel on the proximal side of these bands was tremendously dilated, whereas the terminal portion was collapsed. The vessels carrying the circulation of the ascending colon could also be seen crossing the ileum.

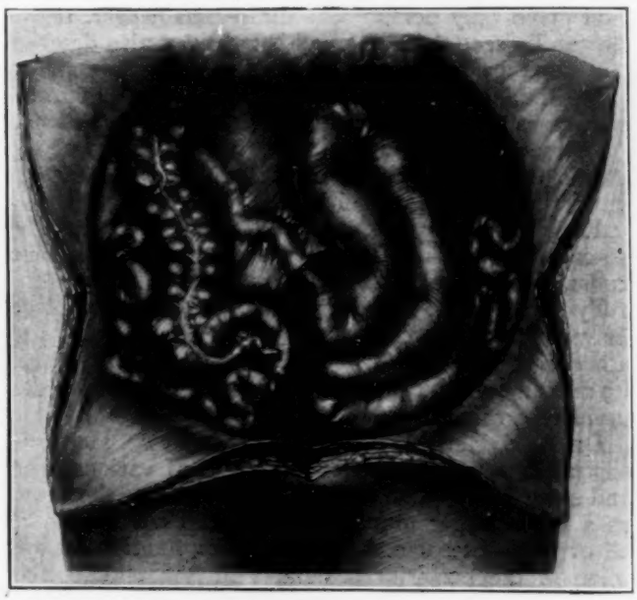
REPORT OF CASE

History.—Mr. V., aged 54, referred through the courtesy of Dr. J. W. Robertson, and presenting a negative family history, was the father of three healthy children. He had never been a well man, but had suffered much from some chronic digestive disorder. He had to be particularly careful that his food should not be bulky, and frequently had to take cathartics. He was thin, morose and distrustful, a hard worker, and had spent all of his life on a farm. In addition to his "indigestion," as he called it, he had had several attacks of diarrhea following periods of constipation. After these attacks he complained of abdominal tenderness. There was no history of a serious illness.

The last attack began with a diarrhea, which persisted all of one night, and was attributed by the patient to a dietetic indiscretion. There were griping pains, which increased in severity. There was some gaseous distention. By morning, vomiting of a serous yellowish material began. The stools were at first productive, but soon became thin with mucus and blood. Occasionally, after severe straining, the vomitus was of a more stercoraceous odor and appearance as the illness progressed. In the morning, on arrival of medical assistance, the diarrhea was temporarily checked, and the pain was relieved by treatment; but the vomiting continued and the distention increased.

The vomitus exceeded the amount of fluid ingested by a considerable amount, and as a consequence the patient was burning with thirst. The pulse finally became small, weak and rapid, and later almost imperceptible. Returns from enemas in the latter part of the day were nil, and some castor oil which had been given failed to act. The mentality became cloudy and the tongue dry and shrunken. It was in this condition that I found the patient on the afternoon of the day following the onset. On account of the history it was considered likely that the obstruction was due to a congenital cause. There appeared to be a massing or difference of rigidity over the right upper rectus muscle. After removal to the hospital the patient was given 1,000 c.c. of Hogan's solution (1 per cent. sterile gelatin in physiologic sodium chlorid solution) intravenously. The blood pressure rose in five minutes from 60 mm. of mercury to 110 mm., and inside of an hour to 140 mm. The tongue became moist, and the mentality clearer. The stomach was washed every two hours, as recommended by Jackson,[1] and an attempt was made to carry out his plan for deferring operation. Later in the evening, physiologic sodium chlorid solution was given subcutaneously. Solutions of sodium bicarbonate and glucose were given by continuous drop proctoclysis. At first the pulse increased in strength and volume, and the rate fell. The vomiting stopped temporarily, and the tongue became more moist. Toward morning, however, the same serous vomiting began again, and the tongue became dry and parched. In the morning, after consultation, it was decided to perform an exploratory operation. In a preliminary discussion of the procedure the patient definitely refused to have an enterostomy. He cared little for life in any case, and not at all at the cost of a fecal fistula.

Operation and Result.—A right rectus incision was made, and the condition described in the introduction was discovered. It was at once apparent that the resection or untangling of such a condition was a measure not suited to the serious condition of the patient. A side to side anastomosis of the ascending colon above the ileac crossing was hurriedly made with the ileum proximal to the obstruction. This was performed with less difficulty than usual, owing to the fact that the thickness of the two intestine walls was about the same. The abdominal wound was closed without drainage. The stomach was washed out and 6 ounces of olive oil injected into it and allowed to remain. On the patient's return to bed, Hogan's solution was again injected. The bowels at once began to move frequently and copiously, and the distention decreased. The condition of the patient at first appeared encouraging, but by a gradual loss of strength he sank into coma and died at the end of twenty-four hours. Death appeared to be due to toxemia. The distention had subsided and the vomiting had stopped, but the pulse flagged and the tongue dried up again. The sodium chlorid solution was not retained, but was excreted by the skin, bowels and kidneys. Permission to perform a post-mortem was refused by the family.



Condition found in case of nonrotated ileum.

COMMENT

The primary cause of a condition like this probably lies in a miscarriage of the usual embryonal shiftings of the intestinal tract. It is strange that a man could have had such a condition for fifty-four years and not have an obstruction before. It seems likely that there existed a partial obstruction due to the many bands that crossed the ileum in its retroperitoneal course, and that this obstruction became absolute by reason of the swelling of the intestinal coats from an inflammatory reaction that caused the diarrhea, and the redness and swelling of the Meckel's diverticulum. The bands in the peritoneum were also probably shortened thereby. Byron Robinson[2] argues

1. Jackson, J. N.: Intestinal Obstruction; Review of Experimental Observations, with Practical Suggestions, Jour. Missouri Med. Assn., 1917, **14**, 377.

2. Robinson, Byron: Unusual caeca in One Hundred and Thirty Autopsies, Gaillard's Med. Jour., 1895, **61**, 307.

the probability of appendicitis in the fetus causing the adhesive tendencies responsible for the nonrotation of the colon. The Meckel's diverticulum need not be discussed other than to suggest that previous inflammatory attacks may have accounted for the patient's previous attacks of diarrhea. An adhesion of this organ may have occurred, fixing it in the right hypochondrium at a certain stage in the rotation of the intestine. This would have prevented its further descent and that of the terminal ileum. If, then, the rotation of the colon and the remainder of the small intestine progressed normally, a condition such as was described in the opening paragraph would have been produced. It would only remain for the colon, which must have descended as a mobile colon, to adhere to the posterior parietes and to the small intestine, which it had overridden.

The rotation of the large and small bowels in the human fetus has been accurately described by Huntington,[3] Kelly,[4] Mayo,[5] and others, and many cases of nonrotation have been reported. In these descriptions the movements and positions of the small bowel have been regarded as secondary to those of the colon, and given only perfunctory notice. However, it can be readily seen that the small bowel must also describe the same arc that the colon does in order to come to lie to the left of the colon. In the complete nonrotation cases the fetal condition persists, that is, the small intestine lies entirely to the right of the colon, the duodenum is entirely uncovered, and the omentum is missing from the small bowel.

Kelly and Huntington give the impression that the so-called cecum mobile, or, more accurately, mobile colon, is the usual state of affairs until the cecum has fully descended, whereupon a fusion takes place between the visceral peritoneum on the back of the ascending colon and the parietal peritoneum beneath it; and an obliteration of the same takes place and the usual type of unmobile cecum is produced.

Dr. A. E. Hertzler holds a different view. He demonstrated to me ten hardened fetuses of various ages and stages of rotation, stating that they were the same as a much larger number that he had collected. In all of these except one, the fusion or fixation of the colon to the posterior parietal wall had taken place before the cecum had reached the iliac fossa, some as high as the subhepatic position; and descent was evidently proceeding with the colon in this condition, as respects fusion with the posterior wall, that is, in the adult state.

It is evident that some other explanation of the observed facts must be sought in the case under consideration, or else that descent as a mobile cecum with later fusion of the layers actually did take place. Indeed, Hertzler showed me one fetus in which all the conditions of this case were fulfilled, excepting the secondary fusion. The mobile colon actually overlay the small intestine in the same manner. Dr. Jabez N. Jackson mentioned a similar finding in a case seen at operation. It is evident, therefore, that both methods of descent and fixation occur, whichever may be the usual manner.

In so brief a paper as this, it is not possible to discuss nonrotation in general. Judging from a perusal of the literature,[6] nonrotation cases appear to fall into the subjoined groups, an arrangement which is offered tentatively as comprehending the reported facts.

1. Nonrotation complete, of both large and small bowels.

2. Nonrotation, partial or incomplete, of both bowels.

3. Overrotation, causing pelvic position of cecum and appendix.

4. Malrotation, which may be normal in extent, but abnormal in that the colon comes to overlie or underlie some of the organs or membranes in a manner differing from the normal.

5. Nonrotation of the small intestine, or a part of it (that of the colon and the remainder of the small bowel having been normal in extent).

In the fifth group comes the case herein reported, as yet an isolated instance.

SUMMARY

This case tends to support two theories previously advanced, and illustrates a new phase of intestinal nonrotation:

1. Inflammatory adhesive processes in the peritoneum may occur in utero.

2. At least in some cases, fusion of the peritoneum on the back of the ascending colon to the posterior parietal wall does not occur until after full rotation and descent have taken place.

3. Nonrotation of a part of the small bowel alone may occur, a phase of intestinal nonrotation not previously reported in the literature available to me.

406 Waldheim Building.

3. Huntington, Anatomy of the Peritoneum, New York, Lea & Co., 1903.

4. Kelly and Hurdon: The Vermiform Appendix and Its Diseases, Philadelphia, W. B. Saunders Company, 1905.

5. Mayo: Failure of the Colon to Rotate, Med. Rec., New York, 1912, **81**, 401.

6. In addition to the references already given, a list of the articles consulted during the preparation of this paper is appended. It is probably not a complete list of the literature on the subject, as the cases reported are numerous, and are scattered under different titles. A case of nonrotation of the small bowel may thus have been overlooked.

Armstrong: Abnormal Positions of the Duodenum, Tr. Am. Surg. Assn., 1910, **28**, 299.
Cunningham: Human Anatomy, New York, William Wood & Co., 1915.
Delatour: Persistent Embryonal Types of Large Intestine, Ann. Surg., 1915, **61**, 73.
Des Comps: Rev. de chir., 1916, **51**, 109; Internat. Abstr. Surg., 1916, **8**, 388.
Fowler: Persistent Developmental Anomalies of the Position of the Large Intestine, Especially the Ascending Colon and Cecum, Med. Rec., New York, 1916, **89**, 353.
Malcolm: Two Rare Abnormalities Observed in the Course of Operations, Lancet, London, 1911, **2**, 1401.
Maylard: A Treatise on the Surgery of the Alimentary Canal, London, J. and A. Churchill, 1896.
Mayo: Removal of the Right Colon: Indications and Technic, Collected Papers, Mayo Clinic, 1916, **89**, 353.
Prince: Transposition of the Stomach and Duodenum; Concealment of the Colon Behind the Duodenum; Strangulation of the Colon, Rapidly Fatal, Am. Jour. Med. Sc., 1853, n. s., **25**, 558.
Smith: A Statistical Review of the Variations in the Anatomic Positions of the Cecum and the Processus Vermiformis in the Infant, Anat. Rec., 1911, **5**, 549.

Effects of Heat, Cold and Fatigue in Encouraging Infections.—Frogs ordinarily do not become sick if injected with anthrax germs, a very deadly germ which readily kills cattle and also men. If such frogs, however, are kept in a warm room at blood-heat temperature, they will rapidly become sick and die of anthrax. In the case of chickens, which also do not readily take anthrax, sickness and death follow the injection of anthrax germs provided the chickens are chilled by keeping them standing in cold water. White rats ordinarily are quite resistant to anthrax germs. Yet they rapidly become sick and die after being injected with anthrax germs provided they have first been fatigued. It is a simple matter to fatigue a rat in the laboratory by making the animal run a treadmill. Various animals can be readily infected with disease germs, to which they are ordinarily resistant, if their resistance is reduced by alcohol.—Circular, Bureau of Public Health Education, to Soldiers in the Army Camps Regarding Pneumonia, etc.

SUBCUTANEOUS INJECTIONS OF OXYGEN IN THE TREATMENT OF BALANITIS GANGRAENOSA

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Erosive and gangrenous balanitis, the *balanoposthite érosive circinée* of Berdal and Bataille,[1] is a fairly uncommon affection, even in large venereal clinics, but its serious character when unrecognized entitles it to more frequent and extended notice in medical literature than it has received up to the present time.

The disease is due to the symbiosis of a fusiform bacillus and a spirochete, which structurally resemble those found in Vincent's angina. The causative organisms were originally described by Müller and Scherber.[2] Culturally, they are anaerobic, and both stain readily with dilute carbolfuchsin, a tinctorial reaction which distinguishes the vibrio from the *Spirochaeta pallida* of Schaudinn and Hoffmann.

The lesions, which develop quickly on the glans or foreskin, usually are single, in contradistinction to chancroid, and do not give rise to inguinal adenitis. The pus is of a characteristic, foul odor. The local and constitutional symptoms vary with the severity of the infection. Owing to the acute character of the inflammatory process, phimosis is an early and annoying complication. Extension of the disease commonly is rapid, and the amount of tissue destruction may be very great.

Of the various constitutional remedies, arsphenamin (salvarsan), as a spirocheticide, holds first place. Locally, oxygen-bearing preparations, such as hydrogen peroxid, are the most efficient.

Examples of gangrenous balanitis occurring in this country have been described by Corbus and Harris,[3] Corbus,[4] Pusey,[5] and Owen and Martin.[6]

The following case is a fairly typical one:

Separation of slough following oxygen injections into the subcutaneous tissues, in balanitis gangraenosa.

F. B., real estate promoter, aged 54, referred by Dr. Frank B. Ellis, of Garden City, Mo., had visited the city a fortnight before his call on me, and at that time had indulged in a prolonged debauch; consequently his recollection regarding the train of events that had led up to the infection was somewhat indistinct. He strongly denied exposure of any kind to venereal disease.

Twenty-four hours after the patient's return home following the debauch, he first noticed a small ulcerated area on the dorsum of the foreskin, at a point overlying the corona. This lesion rapidly increased in size, the central portion becoming blackish, and the entire foreskin became swollen and edematous. In addition to the phimosis, there was a considerable discharge of foul-smelling pus from beneath the inflamed skin covering the glans.

When I first saw the patient, five days after the onset of the disease, almost the entire dorsum of the penis was involved, the skin and subcutaneous tissues being soft and gangrenous. During the following thirty-six hours the infection continued to spread, despite the frequent and liberal use of hydrogen peroxid, by irrigation and by moist packs.

At this time subcutaneous injections of oxygen were begun, by means of an ordinary hypodermic needle connected to an oxygen tank through a small rubber tube, and repeated every four hours. The normal tissue surrounding the affected area was first treated, the flow of gas being regulated by means of a small screw clamp encircling the outlet tube. Afterward the involved structures also were thoroughly impregnated with the gas. Within six hours the progress of the disease was checked, and within twelve hours it was completely under control. Shortly afterward the slough began to separate, and recovery, aside from the deformity resulting from loss of tissue, was prompt and uneventful.

726 Lathrop Building.

1. Berdal and Bataille: Méd. mod., 1891, **2**, 340, 380, 400, 413.
2. Müller and Scherber: Arch. f. Dermat. u. Syph., 1905, **77**, 77.
3. Corbus, B. C., and Harris, F. G.: Erosive and Gangrenous Balanitis, THE JOURNAL A. M. A., May 8, 1909, p. 1474.
4. Corbus, B. C.: Erosive and Gangrenous Balanitis, THE JOURNAL A. M. A., June 7, 1913, p. 1769 (with good photomicrographs).
5. Pusey: Principles and Practice of Dermatology, New York, 1917, p. 532.
6. Owen and Martin: Jour. Lab. and Clin. Med., 1917, **2**, 862 (with good photomicrograph).

ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF BILATERAL CASES OF PULMONARY TUBERCULOSIS

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The use of artificial pneumothorax in the treatment of tuberculosis has received much attention in the last few years.

At present there are many institutions which do not make use of this valuable remedy in the treatment of pulmonary tuberculosis. This is apparently due in part to the belief of many physicians that it is not applicable to patients who have an infection in both lungs. Furthermore, as most of the patients who have pulmonary tuberculosis have a lesion in both lungs, this reason would seem plausible to a certain extent.

If a patient is not doing well, however, and if both lungs are involved, the one more than the other, the physician must resort to radical measures.

Some time previous to the writing of this article, a patient at the state sanatorium, in whom the disease was far advanced in both lungs, left us, after being told that we could not help her. She went to Colorado, where she was given the artificial pneumothorax in the left lung, which was very active, with fine and surprising results.

Since this patient did so well, I have tried many bilateral cases with good results, and I am confident that a more careful study of the remedy in this type of cases will result in a more general use of it in institutions as well as in private work.

Beggs[1] says, "A last resort is a lost resort." Therefore, patients in an advanced stage of the disease should be treated after a very short observation.

After reviewing the percentage of cases found suitable for pneumothorax, which ran from 5 to 10 per cent., Riviere says:

1. Beggs, W. N.: Am. Rev. Tuberc., 1917, **1**, 509.

These figures of suitable cases, however based on mixed material, necessarily take no heed of past or future—ignore, in other words, the fact that most progressive phthisis cases at some time in their course must reach a stage when pneumothorax treatment might be used with advantage, and that a case unsuitable today might have been suitable yesterday, or may become so tomorrow.[2]

The following reports show what can be done in these bilateral cases:

CASE 1.—Mr. J. J. entered the institution, Aug. 31, 1917. His entire right lung was infected, there was a cavity at the top, and the râles were very large, being heard on both inspiration and expiration. The breathing in the left lung was abnormal at the apex, with a few scattered râles throughout, heard only after coughing. Three months later a cavity had developed at the base of the right lung, and a pneumonic condition was present in the entire right lung, with the same condition in the left as at the time of entrance. Temperature in the evening ranged from 99 to 101 F., and the amount of sputum varied from 6 to 8 ounces. Pneumothorax has been given every week for two months previous to the time of writing. Meanwhile, the patient has gained 10 pounds in weight, his temperature is normal, and expectoration is practically absent. The left lung remains unchanged.

CASE 2.—Mrs. E. J. entered the institution, Aug. 18, 1917, with her entire left lung infected and with a cavity at the top. The râles were very large and moist, and were heard on both inspiration and expiration. They were of a fine character, being scattered throughout the upper two thirds of the right lung, but they were heard, for the most part, after coughing. The sputum was purulent, averaging 4 ounces a day, and the temperature ranged from 99.6 to 101.6. The lung condition was unchanged two months ago. The patient has taken pneumothorax for the last two months. The sputum is very slight, the temperature has been normal during the treatment, and the right lung is in the same condition as before.

Chancre of the eyelid.

CASE 3.—Mr. J. B. entered the institution, Oct. 31, 1917. The upper two thirds of the left lung was full of large, moist râles on inspiration and expiration. The cough was very disturbing and the sputum, which seemed to come from the left side, was purulent, varying from 4 to 7 ounces a day. The right lung was infected as far as to the second rib. The râles were somewhat moist, and were heard on both inspiration and expiration. The patient has been taking pneumothorax every week for the last six weeks, and at present has a normal temperature, whereas before the treatment, he maintained an average of 100.5. There is an absence of sputum. The right lung is in the same condition as before the treatment.

In all patients treated, there has been an improvement similar to that observed in the foregoing cases, and also a great improvement in appetite, color and general condition.

In most cases the patient could tell from which side the expectoration was coming. This knowledge is a great help to the operator.

If a patient with a bilateral tuberculosis is not doing well, and there is evidence enough to show that one lung is very active and the other quiet, artificial pneumothorax "will, in a number of cases, prove a great help and cannot do harm if patients are observed very carefully."

2. Riviere, Clive: Pneumothorax Treatment of Pulmonary Tuberculosis, New York, Oxford University Press, 1917.

CHANCRE OF THE EYELID

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CHICAGO

A widow, aged 58, Irish, referred by Dr. Leigh E. Schwarz, consulted me for a lesion of four weeks' duration, situated on the left lower eyelid. In addition to the ulceration on the lid, a large, painless, hard, freely movable gland could be palpated under the angle of the left jaw. A clinical diagnosis of primary syphilis, which was confirmed by demonstration of the *Spirochaeta pallida* with the dark field illuminator, was made.

After prolonged questioning of the patient as to the possible mode of infection, it was learned that a member of her family had had a "sore throat" for some months. Examination of that person revealed a typical syphilitic angina, mucous plaques on the cheek, a fading roseola and a generalized lymphadenopathy. This patient finally volunteered the information that she had employed the tongue to remove a foreign body from the victim's eye. This was unquestionably the mode of transmitting the infection to the eyelid.

Extragenital lesions of the eye are extremely rare, the ratio of incidence[1] being 1:67.

They occur mostly in physicians, usually through patients coughing contaminated saliva into their eyes. This brings up the interesting fact that a single lesion in the mouth may contaminate the saliva to such an extent that a drop of the contaminated saliva may produce a syphilitic lesion without the lesion of the donor coming in actual contact with the recipient of the disease. Touchaleaume[2] says that 25 per cent. of eye chancres are due to kissing, and enumerates other means of infection, as by contaminated napkins, soiled fingers, etc. He further states that mothers can produce chancres on their children's eyelids by moistening crusts of eyelid eczema with their contaminated saliva.[3]

I had not heard of the procedure of the use of the tongue in removing foreign bodies from the eye, but several of my colleagues have known this custom to be a fairly common one, especially with the peasants of Europe. One of my colleagues recalls having known, some years ago, of an instance in which syphilis was contracted in exactly the same manner as in the case here reported. Another queer practice employed in the lay treatment of inflammatory conditions of the eye is the use of fresh urine dropped between the lids, and it seems to me that this method might also be productive of the transmission of syphilis. Max Joseph[4] mentions the tongue as a possible factor in inoculating the disease in the eye.

104 South Michigan Avenue.

1. Montgomery: Jour. Cutan. Dis., 1905, **23**, 342.
2. Touchaleaume: Thesis, abstr., Ann. de dermat. et de syph., Series 2, 1889, **10**, 991.
3. Quoted by Montgomery (Footnote 1).
4. Joseph, Max: Geschlechtskrankheiten, 1909.

Clinical Notes, Suggestions, and New Instruments

A RUBBER ENVELOP ABDOMINAL PAD

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At a meeting of the New York Obstetrical Society, Dec. 11, 1917, I made a preliminary report on a device I am now using in abdominal work, for the purpose of keeping the intestine away from the field of operation without inflicting injury to the peritoneal covering. It may be of interest in this connection to recall that the first material popularly adopted to prevent the intestines from protruding from the abdominal wound and from entering the field of operation was the elephant ear, or flat sea sponge. Next in order was gauze, the introduction of which encountered much opposition. Gauze was used in the form of pads or strips, first dry, then wet, and more recently, gauze pads dipped in melted wax. The sea sponge was soft and supposed to be nonirritating to the peritoneum; but in reality it was irritating, as it held in its interstices innumerable silicon needles which were very sharp and constantly in action and being dislodged. The particular reason for the sponge holding its sway for so many years was its power of absorption; but when it was discovered that complete sterilization of it was not always possible without destroying its usefulness, it was abandoned, and gauze was substituted. Although gauze has not the same absorptive capacity as the sea sponge, it can be sterilized without injury, and for that reason, chiefly, it was substituted for the sponge and has ever since been in vogue. Its roughness, however, has long been recognized as acting injuriously to the peritoneum; gauze, therefore, is objectionable. Many efforts have been made to eliminate this objection; one of the best is the wax gauze pad mentioned before. Though this pad possesses some advantage over the plain gauze pad, it has no power of absorption, and when it is manipulated in the abdomen, particles of wax may break off and, as foreign bodies in the peritoneal cavity, may become disturbing elements.

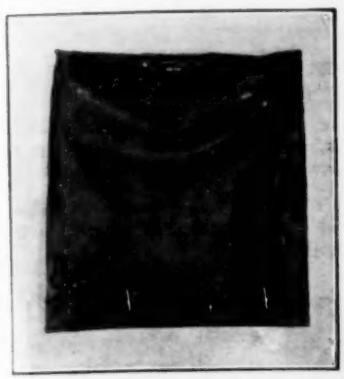


Fig. 1.—A rubber envelop, 8 by 8 inches, with two openings in the middle of its reinforced free borders.

Fig. 2.—A cotton towel pad of four thicknesses, measuring a little less than the envelop, with a 10-inch loop of tape attached.

There is a striking similarity in the evolution of the technic for protecting the peritoneum from infection and injury by the hand, and that of protecting it by means of the rubber envelop to be described. The hand was first used uncleansed, as was the sea sponge. Next it was washed and further cleansed in a mild solution of phenol (carbolic acid), as was the sea sponge. The cotton glove was then introduced, at about which time the gauze pad was substituted for the sponge. Next followed the only positive and practical protection, namely, the rubber glove, and now the rubber envelop, in which there is a resisting and an absorbing pad.

This rubber envelop is made from ordinary rubber dam cut into sheets of 16 by 8 inches and folded so as to measure 8 by 8 inches. The lateral borders of the larger size envelop are glued together with rubber cement, the remaining free edges are folded on themselves to an extent of one-half inch or more and thus cemented, and through the middle of each reinforced border, an opening is made sufficiently large to permit the passing of the tape attached to the pad within.

The material out of which the pad within the envelop is made should possess considerable resistance and pliability. As the result of experiments, I have found that four thicknesses of a cotton towel best meet these requirements. The edges of these four layers are sewed together, and a tape 10 inches or more in length is doubld on itself and sewed to the middle of one border. The measurements of these pads are just a little less than those of the envelops. After being placed in the envelop, the pad is kept in position, and the envelop is closed by the passing of the tape through one and the other opening in the free borders of the envelop. Although the pad is in this manner prevented from coming in contact with the intestines, the envelop is not completely closed, with the result that fluids of the abdomen can in part enter the envelop and be absorbed by the pad.

This rubber envelop pad possesses every advantage over all forms of gauze. Any woven material like gauze, coming in contact with the peritoneum, must injure it more or less; but the rubber envelop pad may remain in contact, and under considerable pressure, for an indefinite time without occasioning an appreciable injury to the peritoneum.

When gauze pads are used in intra-abdominal work, particularly in a prolonged operation, it is not an uncommon experience to find them adherent to the peritoneal surfaces of the intestine and field of operation. The rubber envelop pad, even under the most trying conditions, with respect to length of time and severity of operation, does not adhere to the peritoneum, and leaves the peritoneal surfaces showing the same color and gloss they possessed before operation. Two of these larger pads, or at the most three, are sufficient to keep the intestines away from the field of work. If the operation is of the character that demands absorptive material, that is, one in which pus escapes or a considerable amount of blood is lost, gauze pads to any number required can be placed in front of the rubber envelop pads and used as sponges without injury to the peritoneum.

Fig. 3.—The pad entering the envelop.

Fig. 4.—The envelop completely covering the pad and its free borders partly closed by the passing of the tape through the openings.

Before the rubber pad is handed to the surgeon during the operation, it should be dipped in warm sterile water, then folded on itself, and grasped at its distal border with a ring probang or sponge forceps.

In pelvic work, if Trendelenburg's posture is used, the intestines are removed from the pelvic cavity and the rubber

envelop pads are placed first in the cecal region, then in the sigmoidal region, and a third, if necessary, is placed deep in the pelvis, its upper border meeting at the middle the other two pads previously inserted. If Trendelenburg's posture is not used, the pads are so placed as to surround the immediate field of operation.

No instrument that has rough or cutting surfaces should be used on the envelop. The pads should be removed from the abdominal cavity by means of the tapes and never with the forceps. The longevity of the envelops depends on the way they are handled. For sterilization they require only ordinary boiling in water five or six minutes, and during the interval between operations they can be sterilized again, and used in successive cases, provided a sufficient number of sterilized towel pads have been prepared to meet the demand.

The narrow envelop pads are particularly adapted to operations in which small incisions are used, such as for the removal of the appendix, gallbladder operations, and operations in which the peritoneal cavity is entered through the vagina. The pad used within the narrow envelop should consist of two thicknesses of towel. To facilitate the placing of the pad, a small opening is made in the closed distal border through which forceps are passed to adjust the pad.

In the smaller envelop a long strip of gauze 4 inches wide may be inserted in place of the towel pad if desired, to which is attached a 10 inch loop of tape. In this way a rubber bolster is formed, which would act practically the same as does the larger rubber envelop with towel pad, if folded once or rolled on itself.

Six envelop and twelve or more towel pads are sufficient for active work in any operating room.

219 West Seventy-Ninth Street.

AN APPARATUS FOR HOLDING THE FOOT IN FLEXION AND INVERSION

JOHN A. VIETOR, M.D., NEW YORK

A certain number of cases are presented to the surgeon in which there is stiffness or limitation of motion about the ankle joint that will show a tendency to improve under

One cuff apparatus in position in a case of infected compound Pott's fracture.

ordinary routine treatment, but in which, nevertheless, it would be an advantage to have constant traction in the position of dorsal flexion and inversion. For this purpose I have devised and used with good advantage an apparatus that will keep the foot in the position desired day and night if necessary.

The apparatus consists of two main parts: 1. A canvas cuff with a lacing up the front that fits firmly over the patient's calf. To this cuff two buckles are attached obliquely, one on each side. 2. A stirrup made of moleskin elliptically shaped that fits under the ball of the patient's foot. To the ends of this stirrup are attached two elastic bands one-half inch wide and about 18 inches long made of good strong material. To keep the stirrup firmly on the foot and prevent lateral sliding, an elastic strap and buckle is sewn to the inner side of the stirrup, which buckles over the dorsum of the foot.

By simply buckling the elastic straps in the buckles of the cuff, one may apply and maintain the proper degree of traction. In order to hold the foot in inversion, a greater degree of traction is exerted on the internal strap. In one case in which there was a considerable amount of atrophy of the calf muscles, the cuff would tend to slide down the leg. Here I found that by adding an additional cuff fitting above the knee and attached to the calf cuff by lateral adjustable straps, this sliding would be overcome and the degree of traction would not be altered on flexion and extension of the knee.

The practical advantages of this apparatus besides the above mentioned ones are the low cost of the apparatus, the ease of its application and the simple adjustment by the patient himself.

161 East Seventy-Ninth Street.

AN IMPROVED CALIPER METHOD FOR ROENTGEN-RAY LOCALIZATION OF FOREIGN BODIES

H. C. KARIHER, M.D., CHAMPAIGN, ILL., AND R. D. BROWN, M.D., MOBILE, ALA.
First Lieutenant and Captain, Respectively, M. R. C., U. S. Army

The caliper method requires much calculation, and is subject to error. We have devised a slide rule that enables one to read the depth without calculation.

Slide rule for measuring the depth of foreign bodies.

Metal pins are placed, like the rungs of a ladder, 1 cm. apart, and the ladder is placed perpendicularly between the table and the screen with the tube beneath the table, and the target 60 cm. from the screen. The tube is so placed under the ladder that the shadows of the pins are as but one in the central day; the screen is replaced by a plate, and a brief exposure is made with the diaphragm closed to admit only the central ray, to obtain 0. The tube is then shifted 12 cm. and a roentgenogram made on the same plate. This scale is transferred to the instrument illustrated, and thus the one minute depth measure is secured.

The point 12 cm. to the left, marked *B*, indicates the distance of tube shift. This replaces all tube locks on the table. The second slide registers the foreign body and skin marker at once. These improvements enable the operator to make all measurements at one lighting of the tube.

This instrument is used in the following manner: The foreign body is located by use of the screen; the tube and the screen are shifted so as to bring the foreign body into the central ray; a skin marker is placed in the central ray over the foreign body. Point *A* is placed in the central ray over the foreign body and the skin marker, the tube is shifted until point *B* appears in the central ray, and we know the tube has been shifted 12 cm.; now the diaphragm is opened, *C* is placed over the shadow of the skin marker, and point *D* over the shadow of the foreign body; the reading at *C*, which represents the distance from the skin marker to the screen subtracted from the reading at *D* gives the exact depth of the foreign body in centimeters. This instrument can be used equally well on plates, provided the distance is 60 cm. and the shift 12 cm.

The principal advantages of this instrument over other instruments used in the triangulation method of localization are: No plate is needed; no calculation except the simple subtraction is required; there is no locking of the tube, as the shift indicator point indicates the exact shift of the tube, and all measurements are taken at one lighting of the tube.

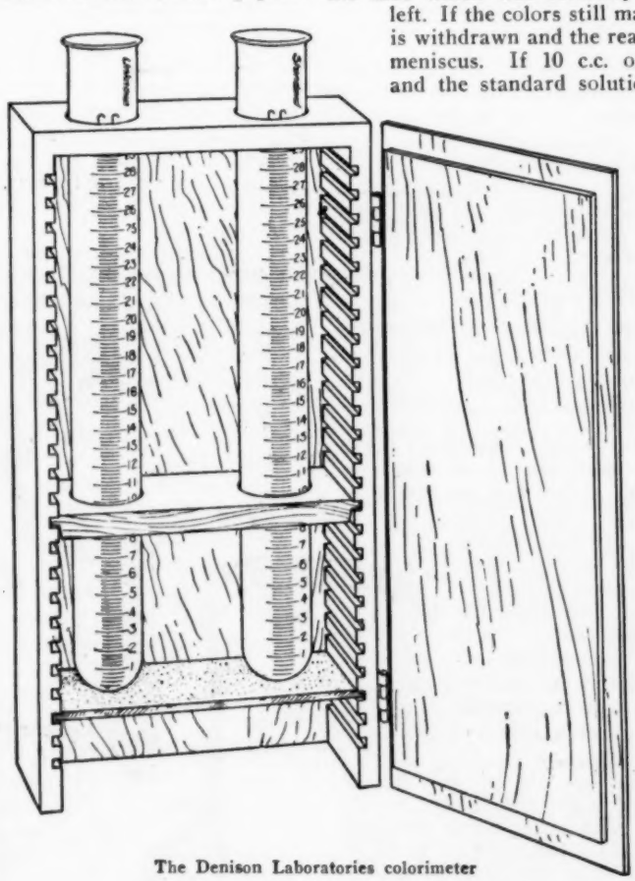
A SIMPLE AND ACCURATE COLORIMETER FOR CLINICAL USE *

ALVIN R. PEEBLES, M.D., AND ROBERT C. LEWIS, PH.D., BOULDER, COLO.

Professor of Preventive and Experimental Medicine, and Professor of Physiology and Biochemistry, Respectively, University of Colorado School of Medicine

The colorimeter here described, which we have chosen to call the "Denison Laboratories colorimeter," has been in constant use in the Henry S. Denison Research Laboratories and in the Laboratory of Biochemistry of the University of Colorado for a period of more than a year. It was designed in an attempt to devise for the use of the clinician a simple instrument which does not lose, because of its simplicity, any great degree of accuracy. As the number of students who have used the colorimeter is now quite large, it seems best, in order to establish the identity of the instrument, to describe it without delay and without relation to other papers on methods and technic which are now in preparation.

The materials out of which the colorimeter is constructed consist of an ordinary Pillsbury slide box designed to hold twenty-five microscope slides, two test tubes graduated to 30 c.c. in fifths, and a small piece of ground glass. One end is entirely removed from the box, and in the other end are drilled two holes large enough to admit the two test tubes. Best results are obtained when the adjacent edges of the two holes are about three-fourths inch apart. A small wooden piece with two holes corresponding to those in the top of the box is made to fit into the grooves designed for slides, and is placed a little below the middle of the box, as in the illustration. This serves to hold the tubes in place in a vertical position. The inside of the box and lid are blackened with a dead finish paint, and the lid is hinged to the box. The ground glass should have a fine-grained, smooth surface,[1] and should be so cut that it will fit into the slots provided for the microscope slides, and at the same time completely fill the aperture between the top and the bottom of the box when the lid is closed. The glass, when in its place near the end of the box from which the wooden end piece has been removed, serves as a base on which the test tubes rest and also acts as an illuminating and diffusing screen. Ordinary stock test tubes graduated to 30 c.c. in fifths are used; these must be selected and paired so that the 30 c.c. graduation mark on the two tubes will come within 1 or 2 mm. of one another when the tubes are made to stand upright on a level surface. One tube should be marked "Standard"; the other "Unknown." Wax pencil marking will do, but acid etching is preferable. A small mirror or a bit of bright tin, or, in good light, a piece of white blotting paper will serve to reflect the daylight up through the tubes. In using the instrument, one looks vertically downward through two tubes equally and evenly illuminated from below.



The Denison Laboratories colorimeter

TECHNIC FOR USING THE COLORIMETER

The tube marked "Unknown" is filled with the solution to be tested until the bottom of the meniscus comes exactly to the 10 c.c. mark, and into the tube marked "Standard" some of the standard solution of known strength is poured. Both tubes are put into the colorimeter box and the colors compared while the instrument is held some distance from the reflecting surface and about 2 feet from the eye. If the colors do not match, and there is hardly a chance that they will, the standard solution is to be added to or withdrawn from the standard tube until a match is obtained. Additions to or withdrawals from the tube may be made with a Wright or opsonic pipet, that is, a medicine dropper drawn out to a capillary tube. When the colors in the two tubes seem to match perfectly, the eye is rested a moment, and they are compared again after the box has been turned round so that the tube which was formerly on the right will be on the left. If the colors still match perfectly, the standard tube is withdrawn and the reading taken at the bottom of the meniscus. If 10 c.c. of unknown solution are used and the standard solution is brought to a match, the strength of the unknown solution, expressed in terms of percentage of strength of the standard solution, may be obtained by multiplying the reading of the standard tube by 10. For example, if the reading of the standard is 8.4, the strength of the unknown solution is 84 per cent. of the strength of the standard; or, if the reading is 11.4, then the unknown is 114 per cent. as strong as the standard solution. Greatest accuracy is obtained by alternately working from dark to light and from light to dark. In other words, one begins with too much standard and withdraws the solution to a match for a first reading; then for the next reading one begins light and adds standard solution to a match. The average of three or four successively consistent readings should be taken as the figure on which to base calculations.

RESULTS

When three or four readings are taken in the manner described by one with ordinary color sense, it is most unusual for the average to show an error as great as 2 per cent. That this statement is conservative may be seen from the results of the following test: A picramic acid solution prepared as a standard for the blood sugar method of one of us with Benedict[2] was diluted so that 10 c.c. were equivalent to 0.1 mg. of glucose. Some of this solution was placed in the unknown tube, and students, who had no idea of the amount of solution in this tube, were asked to add the same solution to the standard tube until a match was obtained. The results of this test are shown in the accompanying table. Students B and F had had no previous colorimetric experience beyond that of the determination of ammonia in water by the use of nesslerization tubes; Student M had used the colorimeter at intervals for a period of three months, but had had no previous colorimetric experience.

About the only source of error that has come to our attention is the illumination. The ground glass must be clean and

* From the Henry S. Denison Research Laboratories of the University of Colorado.

1. Ground glass may be prepared very easily by rubbing together two plates of glass with carborundum (or emery) powder and a little oil between them. In the colorimeter described, glass ground on both sides has been used.

2. Lewis, R. C., and Benedict, S. R.: Jour. Biol. Chem., 1915, **20**, 61.

dry, and the colorimeter must be held far enough from the reflecting surface to insure even illumination. Naturally, the test tubes must be clean, but there is far less trouble from dirty glass in this instrument than in other colorimeters.

The instrument offers certain advantages over other colorimeters. To mention only a few of these, it costs only about a dollar to make; it is possible to read accurately much paler colors than with the Duboscq or Hellige colorimeters; and, as no cement is used in its construction, strongly acid or alkaline solutions can do the instrument no harm. Another point of interest worthy of note is the fact that with this instrument subjective error is reduced to a minimum, because the scale to be read is hidden completely during the matching of the colors.

ACCURACY OF THE COLORIMETER

Student	Amount of Solution in "Unknown" Tube, C.c.	Readings of "Standard," C.c.	Average Reading of "Standard," C.c.	Error of Average Reading, Per Cent.
B	13.6	13.5, 13.8, 14.0, 13.8	13.775	+1.29
F	13.6	14.0, 13.8, 13.4, 13.5	13.675	+0.55
F	9.2	9.3, 9.3, 8.6, 9.3	9.125	—0.82
M	10.0	9.9, 10.0, 10.0, 10.0	9.975	—0.25
M	15.0	15.0, 15.2, 15.2, ...	15.133	+0.89
M	20.0	19.8, 19.9, 20.1, ...	19.933	—0.33

We have used the instrument repeatedly and with perfect satisfaction for the determination of phenolsulphonephthalein, ammonia, urea, creatinin, and total nitrogen in urine; urea, nonprotein nitrogen, uric acid, creatinin and creatin, and sugar in blood; and protein and lactose in milk.

DEATH FROM PRESSURE ON LARYNX BY EXTREME ANTERIOR CURVATURE OF CERVICAL SPINE

ALFRED H. NORBREN, M.D., BUFFALO
Fellow of the American College of Surgeons

Miss U., aged 66, was admitted to the Lutheran Church Home as an inmate about twenty years ago. Since that time, she had been in fairly good health, except that she had experienced constant difficulty in swallowing. Thus she had been unable to eat her oatmeal without picking out any lumps that might be in it. She had also been markedly hunchbacked ever since she had been in the institution. The cause of this deformity could not be ascertained.

I saw her for the first time, the morning of Jan. 5, 1918. During the two previous days, her difficulty in swallowing had markedly increased, and for twelve hours she had been unable to swallow anything.

Only a very superficial examination was possible, as the patient was in great distress and could not breathe except when curled up on her left side. The most obvious symptom was her extreme dyspnea, not a rapid breathing as in pneumonia, but a labored and rather slow breathing, as though there were some obstruction in the respiratory tract. Examination of heart and lungs showed them to be normal, but very little air was entering the lungs. On looking into her mouth, I saw a bulging on the posterior pharyngeal wall, which felt hard to the palpating finger.

Further examination was made impossible by her condition but a diagnosis of pressure on some part of the respiratory tract was made. Death occurred about six hours later.

Postmortem examination, made by Dr. Mueller, pathologist of the Deaconess Hospital, revealed the cause of the dyspnea and dysphagia. The marked kyphosis in the dorsal region caused a compensatory lordosis in the lumbar and cervical regions, the most anterior portion of the latter consisting of the third and fourth cervical vertebrae. This anterior curvature came forward directly above the larynx and the opening of the esophagus, and pressed the epiglottis down on both of them, thus practically shutting them off. It occupied so much of the usual pharyngeal space that when the finger was introduced into the mouth, it felt like a large osteoma filling the mouth and pharynx. A thorough examination of the interior of the chest revealed nothing abnormal except a reddening of the mucous membrane of the trachea, with a moderate amount of semipurulent exudate.

The sequence of events which led to the patient's death was probably somewhat as follows: With the settling of the vertebrae, which occurs in old age, the abnormal curves in the spine were exaggerated, until the cervical convexity came forward to such an extent that it almost shut off the glottis and the esophagus, causing an edema of the larynx that quickly caused her death.

If an exact diagnosis had been possible before death, a tracheotomy might have been indicated, but probably would not have saved the patient's life on account of her age and poor condition when first seen.

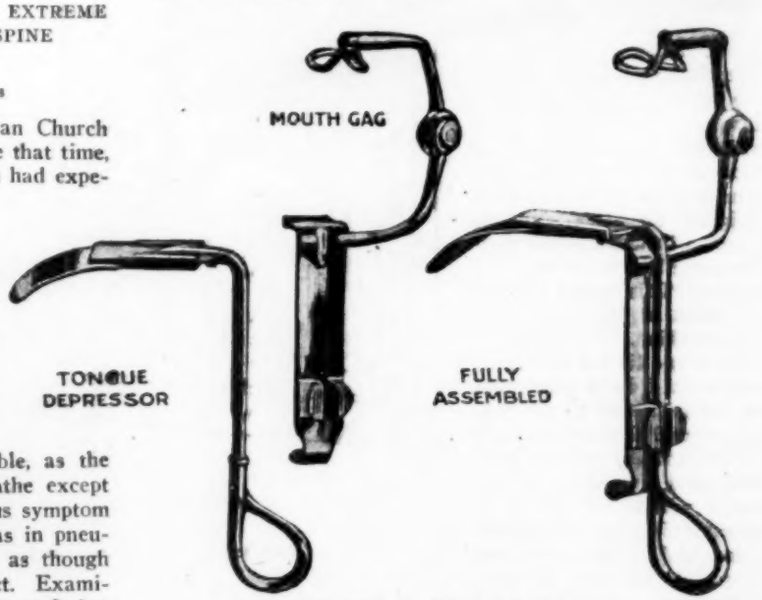
1196 Main Street.

IMPROVED MOUTH-GAG AND TONGUE-DEPRESSOR

J. J. MOYER, M.D., OAKLAND, CALIF.

This invention relates to improvements in mouth specula and more particularly to an improved tongue-depressor. Its object is to provide a tongue-depressor which is instantaneously removable from the mouth-gag. This tongue-depressor may be adjusted for depth to suit the mouth, and has an oscillatory mounting, leaving the operator free to move the tongue-depressor from side to side without affecting the adjustment of the gag or removing the depressor from its holding means.

The particular advantage of the device is the ease with which the tongue-depressor is manipulated, in and out or from side to side in an instant.



Mouth-gag and tongue-depressor.

The ratchet on the gag affords adjustment of the mouth to any desired opening. By the pressing of a button on the side, the ratchet is released.

In the hands of my associates and myself, this instrument gives great satisfaction.

Fourteenth and Jefferson Streets.

First American Book on Military Medicine.—John Jones (1729-1791), who had been a surgeon of French troops in the war of 1758 and afterwards rendered worthy service in the Revolution, published a treatise on wounds and fractures in 1775, which was the first surgical work published in this country, and, through its appendix on camp and military hospitals, the first American book on military medicine.—Lieut.-Col. C. C. McCulloch, Jr., U. S. Army: The Scientific and Administrative Achievement of the Medical Corps of the United States Army, the *Scientific Monthly*.

Military Medicine and Surgery

TETANUS

KENNETH TAYLOR, M.A., M.D. (ST. PAUL)
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PARIS, FRANCE

Among the anaerobic infections, the two that deserve special consideration are tetanus and gas gangrene. Fortunately, modern prophylaxis with antitoxic serum has controlled the former to a very large extent; the latter still continues to be the scourge of the armies.

Most shell and shrapnel wounds are probably infected by both the tetanus and the gas bacillus. The same type of wound is favorable to the development of the two—a deep wound of the muscles showing considerable trauma,[1] the presence of débris, foreign bodies and clothing, and especially comminuted fractures. Tetanus infection is not, however, limited to wounds of this type. Instances of acute tetanus have been reported following frostbite, and these cases should receive the same prophylactic treatment as wounds.

ACUTE TETANUS

At present this is a comparatively rare disease in the base hospital. Its incidence averages, perhaps, two or three cases in a thousand. This is due largely to the general systematic use of antitoxin at the receiving or field hospitals, where every wounded man receives at once a prophylactic injection. The amount given is usually from 750 to 1,500 units in the French army and 500 units (U. S. A.) in the British forces. It is recommended that in severe cases, especially in fractures, a second injection of 1,500 units within six days should always be given.[2] It should be remembered that the immunity afforded by one inoculation generally lasts for only about ten days. Thus, if the bacilli persist for a longer period than that in the wound, acute tetanus may subsequently develop in spite of the primary inoculation. These cases are not rare. They are seen especially among some of the amputations which have been performed at the front and in which devitalized tissue was enclosed within the amputation flaps.

Perhaps the early débridement of the wound is as important a prophylactic measure against tetanus as is the administration of serum. Such treatment is as effective in preventing the growth of the tetanus bacilli as it is the growth of the gas-forming anaerobes. It must never be considered, however, as a substitute for prophylactic serum treatment.

Acute tetanus also occurs after secondary operations, especially those that entail considerable trauma of the soft tissues. These cases have been frequent enough for general orders to have been issued by the French medical service advising the routine administration of a prophylactic dose of 1,500 units of serum before every secondary operation.

Anaphylactic reactions from secondary inoculations of tetanus serum are of very rare occurrence, and the danger can probably be entirely obviated by the employment of the desensitizing dose. This consists in subcutaneous injection of from 0.5 to 1 c.c. of the serum, followed, after three or four hours, by the remainder.

1. Taylor, Kenneth: Am. Surg., 1916, **64**, 641.
2. Official recommendation, Service de santé, France.

"Serum sickness" may occur, in spite of this precaution, at any time between three and eight days after injection. It is characterized by edema, local or general urticaria, joint pains, and occasionally fever, vomiting and general malaise. The duration is usually from one to five days. The prognosis is good.

The diagnosis of acute tetanus requires no discussion. The picture is too characteristic to be mistaken for any other condition. The search for tetanus bacilli in the wound is usually an unprofitable procedure, and even if they can be identified (which is unusual), their presence is of little significance.

The treatment of acute tetanus is highly unsatisfactory and the prognosis bad. Large injections of serum, from 10,000 to 20,000 units daily, given subcutaneously, intramuscularly,[3] intravenously, or especially intrathecally,[4] or all three simultaneously, are usually instituted, but seldom appear to have much effect once the symptoms are established. The same may be said of injections of phenol (carbolic acid), from 1 to 20 grains injected daily. Injections of magnesium sulphate also have proved ineffectual.[5] Immediate débridement of the wound, or amputation practiced at the onset, may result in an occasional recovery if too much of the toxin has not already been fixed in the nerve cells. A dark room, rest, sleep and food are always valuable. Morphin should be administered, but has slight effect on the contractions.

About 80 per cent. of the cases with an onset within ten days of injury terminate fatally. A rapid onset and severe tetanic spasms at frequent intervals usually mean death. The longer the incubation period the better the prognosis.

CHRONIC TETANUS

Various chronic and more or less local forms of tetanus are not uncommon.[6] Local tetanus developing in the limbs or other isolated groups of muscles is ascribed to an insufficient amount of serum in the prophylactic inoculation or to the gradual lowering of the state of passive immunity. Cases are reported as occurring more than three months after the last operative procedure and more than a year after injury, and in cases with wounds completely healed.[7] Pure local tetanus is a rare occurrence. The disease tends to become general, though irregular in distribution. Among the most common conditions from which a chronic tetanus may develop are the infected fractures with a long continued, low grade, bone infection.

The diagnosis of chronic tetanus is not easy. It is usually gradual in onset and tends to become chronic. Trismus is frequently absent. The muscles about the wound may show first clonic spasms or a tonic contracture. Reflexes, deep and superficial, may be increased. It must be carefully distinguished from hysteria, and if symptoms are local, pressure on some nerve trunk by a scar or a bone displacement must be excluded. Rheumatism, diseases of the brain and meninges, and low grade bacteremias are sometimes confused with chronic tetanus. A high pulse rate with little or no fever is fairly characteristic. Pain in the muscles of the back or neck, general restlessness, profuse sweating, sore throat with difficulty in swallowing,

3. Leishman, W. B., and Smallman, A. B.: Lancet, London, 1917, **1**, 131.
4. Andrewes, F. W., and Horder, T. J.: Lancet, London: 1917, **1**, 682. Golla, F.: Ibid., 1917, **1**, 686.
5. Bruce, D.: Lancet, London, 1916, **2**, 929.
6. Courtois-Suffit and Ciroux, R.: Les formes anormales du tetanos, Paris, Masson & Cie, 1916.
7. Dean, H. R.: Lancet, London, 1917, **1**, 673. Bruce, D.: Ibid., 1917, **1**, 986.

and congestion of the sublingual veins may add to the certainty of diagnosis.

The treatment of chronic tetanus is largely surgical. The wound should be explored, the dead tissue resected, bone fragments curetted, and sequestrums removed. Occasionally, if the symptoms become more severe, amputation may be necessary, especially if the local conditions make preservation of a useful limb doubtful. This is probably rarely necessary, and chronic tetanus alone should seldom be accepted as an indication for amputation. In addition to the operative treatment, sedatives may be administered and antitoxic serum injections instituted. Quiet and a sustaining diet are as important as in the acute cases.

The prognosis of chronic tetanus is usually good. Nearly all patients who live for two weeks or more after the appearance of the first symptoms recover. Bruce reports a mortality of 17 per cent. in cases occurring after operation when no prophylactic dose of antitoxin was administered. In the local forms, the greater the time since the last injection of antitoxin the worse the prognosis. The gradual involvement of the higher centers is, of course, a bad sign.[8]

THE SERVICE IN GENITO-URINARY DISEASES AT CAMP DIX

WILLIAM WARREN TOWNSEND, M.D.
Major, M. R. C., U. S. Army
CAMP DIX, WRIGHTSTOWN, N. J.

The work of the urologic and dermatologic departments in the base hospital at Camp Dix has been one of organization as well as therapeutics.

Starting September 13 in one two-story building, our progress has been rapid. In October we moved to the base hospital, and at present have, exclusively for genito-urinary and dermatologic patients, six wards, one of which is used for outpatients only.

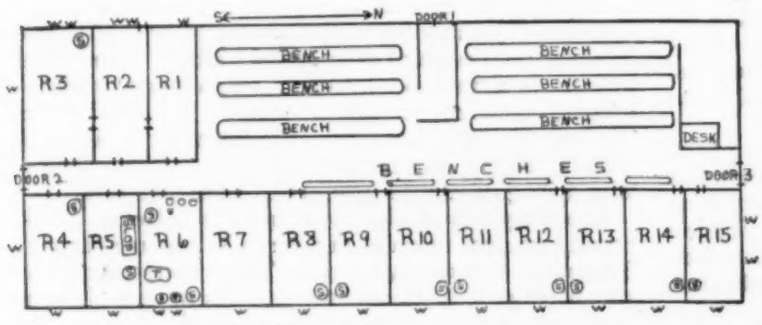

Fig. 1.—Dispensary floor plan.

Our medical staff consists of fourteen officers. A major is the chief of both the genito-urinary and dermatologic departments. The genito-urinary staff consists of ten lieutenants. The dermatologic staff consists of one captain and two lieutenants. Each member of the staff does work in the dispensary in addition to ward work. The junior members of the staff receive instruction from the chief of the department in the diagnosis and treatment of urologic and venereal diseases.

Each ward has a ward surgeon and an assistant ward surgeon. The ward surgeon is responsible to the chief for everything that transpires in his ward. In the absence of the ward surgeon, his assistant automatically becomes ward surgeon and assumes the duties and responsibilities of the ward surgeon.

In addition to ward duty, each officer has a position in the outpatient department. Here, as far as duties are concerned, our system is one of rotation. In order that a man may become familiar with every phase of our outpatient work, he is assigned to the various stations for a week at a time. As yet we have not made

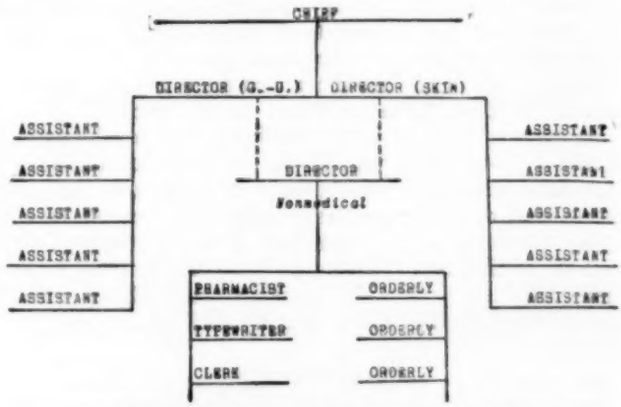

Fig. 2.—Hospital and outpatient organization.

the position of director of treatment one to which every man is assigned. For obvious reasons it is considered most practicable to keep this for about three experienced men.

RANGE OF WORK

In October, 1917, with the cooperation of the Surgeon-General's Office and the commanding general and the division surgeon of the Seventy-Eighth Division, we took over the treatment of all genito-urinary and dermatologic cases in Camp Dix. In this movement we have received the cooperation of regimental surgeons and regimental commanders. Prophylactic treatment has, however, been administered at the regimental infirmaries. In assuming control of all genito-urinary and syphilis work, our organization plans had to be greatly altered to accommodate the extra amount of work put on them. At present we can easily handle 300 dispensary patients in a day in addition to treating all of our hospital patients. As a result of the splendid cooperation of regimental commanders and surgeons, we have not been burdened with follow-up letters.

Our plan of distribution and assignment of patients, either to our hospital wards or to the outpatient department, is as follows:

Every new patient sent to this department for advice is thoroughly examined and a *complete* history taken at his first appearance. If he is deemed a case for hospital care, Form 1 is filled out and sent to the regimental surgeon. In this form it will be noted that the patient must be sent with his mess kit. In our entire department we have no dishes except those that the patients bring with them. He is further instructed to bring any toilet articles he may need, because he cannot again leave the hospital buildings until discharged. In the event of his being a dispensary case, Form 2 is sent to his regimental surgeon.

8. Montais: Ann. de l'Inst. Pasteur, July, 1916.

If, on discharge from the wards of the department, the patient is to receive further treatment as an outpatient, Form 3 is filled out. If discharged, a personal note is sent the regimental surgeon in addition to Form 4.

DISPENSARY TREATMENTS

Our plan of procedure in handling cases in the dispensary is as follows:

The patient enters Door 1 (Fig. 1) and his name is taken by a clerk. He then takes his place on a bench as near as possible to Room 1. (We endeavor to seat the men and treat them in the order in which they arrive.) The records are then sorted out by the record

FORM 1

UROLOGICAL DEPARTMENT BASE HOSPITAL CAMP DIX, N. J.

PLEASE RETURN THIS SLIP WITH PATIENT

January, 1918.

From: G.-U. Dispensary.
To: Regimental Surgeon.
Subject:
Diagnosis:
Advise: Admission to this hospital for treatment.
Patient should have mess kit and either transfer card or nominal list, as applies to this case. Your signature to either necessary.

.....
First Lieut., M. R. C.

FORM 2

UROLOGICAL DEPARTMENT BASE HOSPITAL CAMP DIX, N. J.

PLEASE RETURN THIS SLIP WITH PATIENT

January, 1918.

From: G.-U. Dispensary.
To: Regimental Surgeon.
Subject:
Diagnosis:
Advise: That he return to this dispensary .....
and ..... each week for treatment at 8 a. m.

.....
First Lieut., M. R. C.

FORM 3

UROLOGICAL DEPARTMENT BASE HOSPITAL CAMP DIX, N. J.

PLEASE RETURN THIS SLIP WITH PATIENT

January, 1918.

From: G.-U. Dispensary.
To: Regimental Surgeon.
Subject:
Diagnosis:
Advise:

.....
First Lieut., M. R. C.

FORM 4

UROLOGICAL DEPARTMENT BASE HOSPITAL CAMP DIX, N. J.

From: G.-U. Dispensary. January, 1918.
To: Regimental Surgeon.
Subject: Discharge of
Diagnosis:
Remarks: The above named patient is discharged from treatment in this department.

.....
First Lieut., M. R. C.

clerk and given to an orderly, who calls out the patient's name and sees that he gets into Room 2 to the director of treatment. After receiving treatment, the patient takes his record and the treatment slip, which has been signed by the officer administering the treatment, and deposits them in a basket at Door 3. At 3 we have a clerk stationed whose duty it is to see that no patient leaves the building without his record or without having had treatment.

The direction of treatment of hospital patients is carried out in our dispensary building, and each ward surgeon directs the treatment of his own patients. The routine work is carried out, however, by other members of the staff. We wish to emphasize the fact that *all* treatments are administered by members of the medical staff and not by orderlies.

In our work we have impressed the fact on members of the staff that there can be just as much decorum and professional dignity connected with a urologic and dermatologic hospital as in any other branch of medicine. This seriousness of purpose, we believe, automatically impresses the venereal patient with the gravity of his disease.

In the wards, bedside talks on sexual hygiene are given by the staff. While attendance is not compulsory, we find that general interest is manifested by the patients.

OUTPATIENT DEPARTMENT

For this work we have a well equipped converted ward building which has fifteen small rooms for treatment and one large room for a waiting room (Fig. 1).

Room 1 is used as a record room. All records of outpatients and discharged patients are kept in files. The records are kept in order by a record clerk whose duty it is to keep the records and to enter on the treatment sheet the treatment each patient receives. It is also the duty of this clerk to check up the names of such outpatients as fail to appear for treatment. The regimental surgeon is then informed of any men in his command who have failed to appear.

Room 2 is the station of the director of treatment. Each patient receives his record on entering this room. The director examines the patient, that is, takes a smear weekly, examines the urines clinically by the glass test, makes note of anything the patient may complain of, and with his treatment slip assigns him to one of the several rooms where treatment is given.

Room 3 is used exclusively for endoscopic, cystoscopic and urethral examinations, and passage of sounds under the direction of the chief of the service.

Room 4 is the laboratory in charge of a lieutenant trained in laboratory work He examines smears for gonococci, and the urines of both ward and outpatients. He also examines specimens for *Spirochaetae pallidae*.

Room 5 is the patients' toilet.

Room 6 is a lavatory for officers and the hospital personnel.

Room 7 is the pharmacy in charge of a trained man. Here all solutions and drugs used in this department are in stock, and drugs necessary for treatment are dispensed.

Rooms 8 to 15 are treatment rooms for genito-urinary patients.

Room 15 is used as a dermatologic and syphilitic treatment room.

Health of New York in 1917.—The health department has recently published a résumé of its statistics for the year 1917, which shows that the death rate last year was 13.78, the lowest ever recorded in the city. The death rate for 1916 was 13.89 and for 1910, 16.00. The respiratory diseases as a class are still responsible for a large number of deaths annually; the death rate from pneumonia was 1.93, the same as in 1913. The death rate from tuberculosis shows an increase over that prevailing in 1916, the rate being 1.55, as against 1.50 for 1916. While the prevalence of the common infectious diseases is known to fluctuate from year to year, there has been a gradual reduction as compared with ten or twenty years ago. Heart disease, Bright's disease and cancer fail to show any decrease. Last year there were 529 deaths from sunstroke, the largest number in New York City since 1901. There has been a marked increase in violent deaths the past few years. In 1917, the rate of deaths from automobile accidents was 9.07 per hundred thousand, as against 5.64 in 1913. In 1917, there were 768 deaths from suicide as compared with 836 in 1916. The marriage rate was 10.49 in 1917, as against 9.78 in 1916 and 9.68 in 1910.

CULTIVATION OF THE MENINGOCOCCUS INTRACELLULARIS (WEICHSELBAUM) FROM THE BLOOD

PRELIMINARY REPORT *

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Captains, M. R. C., U. S. Army

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First Lieutenants, M. R. C., U. S. Army

CAMP JACKSON, COLUMBIA, S. C.

The recent epidemic of meningitis at this camp afforded excellent opportunities for studying the disease, and brought out certain phases in its onset and course which, heretofore, have not received the attention that their importance warrants. The unusual severity with which the disease manifested itself no doubt accentuated those phases so that they stood out more prominently in its syndrome.

While it is generally accepted that the meningococcus is carried in the secretions of the nasopharynx of patients and contacts, its mode of reaching the sites of the body where its presence gives rise to the pathologic manifestations are as yet to be definitely settled. Whether the meningococcus passes directly to the nervous system by way of the lymphatics between the nasopharynx and the meninges, or indirectly by way of the blood, has not been established.

The nature of the onset and course of the disease in some cases pointed to the probable existence of a systemic infection before the meninges were affected. The course of the disease seemed to divide itself into two periods, the premeningeal and the meningeal. The premeningeal was characterized by chills, severe toxemia and petechiae. The spinal fluid drawn during this interval was frequently clear, free from polymorphonuclear leukocytes, and contained few or no organisms. During this stage Noguchi's butyric acid test for globulins was either very faint or negative. Fehling's solution was reduced.

The progress of the disease in these cases, showing symptoms of a general toxemia previous to or coexistent with those of meningeal involvement, suggested that as in other infectious diseases, as typhoid and pneumonia, we were dealing with a bacteremia which in its later course involves the meninges.

That the meningococcus occasionally gets into the blood is borne out by the occurrence of lesions in various parts of the body from which we have recovered and identified the meningococcus. These lesions have always been regarded as late systemic manifestations of the disease; and the occurrence of the organism in the blood, even though it has frequently been recovered by blood culture, was considered as exceptional. The early appearance of these lesions and the characteristics of the disease mentioned above lead us to believe that it is essentially systemic, and caused us to advise the intravenous administration of serum, which in the hands of the clinicians has shown such promising results. An occasional blood culture taken in the course of the epidemic confirmed us in the belief that the organism, in the early stages of the disease, invades the blood; and as the stress of routine work permitted, further cultures were made.

While the series reported here is small (twenty-five cases), it is very suggestive. When it is considered that the meningococcus, under the most favorable circumstances, is an extremely difficult organism to grow artificially at first from the cerebrospinal fluid, and that a blood organism is highly parasitic, the percentage of positive cultures obtained would point to a much higher incidence than the actual figures would indicate.

As large amounts of a vigorous growth have to be transferred to obtain successful transplants, so a large quantity of blood is necessary for the inoculation of the first culture. In the milder cases the number of micro-organisms even in a large amount of blood is necessarily small; for this reason it is in the relatively severe cases, in which the number of organisms is large, that the positive culture is obtained.

The fact that the organism has been isolated from lesions in which the meningococcus infection has not been suspected points to the probability that even in the milder cases the disease is general, rather than a local infection confined to the meninges.

Up to the present the stress of work has prevented us from taking more than a single culture from each patient, excepting in two cases, one of which was twice positive and the other twice negative. If repeated cultures were taken they would probably show an even higher percentage of positives.

At present a culture is taken as soon as the patient is admitted and the provisional diagnosis made, and before any serum has been given. A member of the laboratory staff is always on call at any hour to get the blood. At the same time sufficient blood is obtained for agglutination tests, the results of which will be reported later.

The occurrence of the meningococcus in other sites of the body has been pointed out. That this metastatic localization may follow the meningeal involvement must be granted; it is equally possible that the occurrence of the organism in other regions than the meninges is due to the systemic invasion occurring in the early stages of the disease.

REPORT OF CASES

CASE 1.—Private E. S., aged 26, admitted, Dec. 2, 1917, complained of sore throat of two days' duration. He began feeling chilly on the morning prior to admission. He complained of headache, and pains in his bones and muscles. The provisional diagnosis was acute pharyngitis. December 8, 40 c.c. of slightly cloudy fluid were removed by lumbar puncture. The fluid contained many pus cells and intracellular and extracellular gram-negative diplococci. December 19, the patient developed arthritis of both knees; 45 c.c. of gelatinous purulent fluid were removed from the left knee, and 40 c.c. of a similar fluid from the right knee joint. Bacteriologic examination of these fluids was negative. December 25, a second puncture of the knee joints revealed fluids of a character similar to that removed by the first aspiration. Jan. 6, 1918, the patient developed panophthalmitis of the left eye, which was enucleated. Smears from the interior of the eye revealed numerous gram-negative, intracellular and extracellular diplococci. January 8, the patient was discharged. The bacteriologic examination of the knee fluids gave a gram-negative diplococcus which was identified as a meningococcus of the regular type.[1]

* From the pathologic laboratories, base hospital, Camp Jackson, S. C.

1. Final identification of the meningococcus is made by agglutination with serums supplied by the Rockefeller Institute and the Department of Health of New York City. Types are determined by serums furnished by the Army Medical School.

CASE 2.—Private J. M. F., aged 25, admitted, Jan. 5, 1918, was in very poor condition; there were marked tremor, and cyanosis of the lips and finger tips. The provisional diagnosis was bronchitis following measles. January 11, bronchopneumonia developed. The patient died, January 15. Cultures of pus found at necropsy in the sphenoid sinus gave a gram-negative diplococcus which was identified as the meningococcus of the regular type.

CASE 3.—Private S. R., aged 23, admitted, Nov. 15, 1917, complained of cold and pain in the chest, and pain in the eyes and the back. The provisional diagnosis was measles. November 24, bronchitis developed on the left side. November 28, there was pleurisy on the left side. Next day a diagnosis of bronchopneumonia was made. Jan. 15, 1918, an intercostal incision for left empyema was made, and a large amount of slightly cloudy serous fluid removed, which was sent to the laboratory for bacteriologic examination. A meningococcus of the regular type was isolated.

culture is made at the same time from the patient's nasopharynx on a glucose-blood-agar plate. The plates are examined the following day for suspicious looking colonies and these are transferred to a glucose-blood-agar slant for identification.

The blood cultures are incubated at 37 C. and subcultures are made at twenty-four hour intervals on 1 per cent. glucose-blood-agar plates. Positive cultures are obtained in from forty-eight to ninety-six hours. Negative cultures are kept under observation for an additional five days before being discarded.

Appearance of Positive Bouillon Culture.—Red blood cells lie free on the bottom of the flask unchanged. The supernatant fluid is slightly cloudy and has a faintly greenish opalescence. As the culture ages, the color of the medium deepens.

TABLE 1.—CASES ON WHICH THIS REPORT IS BASED

Case	Date	Initial Chill	Headache	Vomiting	Rash	Temperature on Admission	Cerebration	Kernig's Sign	Rigidity of Neck	Microscopic Examination of Spinal Fluid	Culture of Spinal Fluid*	Culture of Blood	Culture of Nasopharynx	Treatment Before Admission	Outcome of Case	No. of Times Spinal Fluid Was Cultivated
1. R. S. B.	12/14/17	+	+	0	++	?	Cloudy	?	?	+	0	+	—	0	L	1
2. W. B. W.	12/14/17	0	0	0	+	100.8	Unconscious	0	0	+	0	0	—	0	D	1
3. J. D. D.	1/ 7/18	0	++	0	0	101.4	Dull	+	+	+	0	+	—	0	D	1
4. P. B.	1/13/18	+	++	++	++	104.2	Stupor	+	+	+	+	+	—	0	D	1
5. J. P. C.	1/14/18	0	+	0	+	100.0	Clear	+	+	+	+	+	—	0	D	2
6. C. W. L.	1/15/18	0	+	+	0	104.0	Stupor	++	+	+	0	0	—	—	L	12
7. O. J. B.	1/16/18	0	+	++	+	103.0	Normal	++	+	+	+	+	+	0	D	2
8. A.P.	1/17/18	0	+	0	0	103.0	Unconscious	+	++	+	+	0	0	0	L	1
9. B. L. B.	1/20/18	+	++	++	0	101.4	Normal	sl	sl	+	0	0	0	0	L	4
10. H. A.	1/21/18	+	+	+	0	100.2	Clear	sl	sl	+	0	0	0	0	L	5
11. M. L.	1/21/18	0	+	+	0	98.0	Conscious	++	+	+	+	+	0	0	L	2
12. R. L. T.	1/21/18	+	+	+	+	105.0	Conscious	+	+	+	+	+	+	0	D	2
13. A. S.	1/22/18	0	+	+	0	103.0	Unconscious	+	+	+	+	0	0	+	L	4
14. H. C. L.	1/23/18	†	+	0	0	99.0	Conscious	sl	sl	+	0	0	0	0	L	4
15. W. F. M.	1/23/18	+	++	0	++	105.0	Clear	+	+	+	+	+	0	0	L	3
16. J. W. W.	1/23/18	+	+	+	+	103.0	Delirious	+	+	+	+	+	0	0	L	1
17. D. W.	1/23/18	0	+	0	0	101.0	Prostrate	+	sl	+	+	0	0	0	L	2
18. Lt. D.	1/24/18	0	+	+	?	98.6	Clear	0	0	+	+	0	0	0	D	2
19. R. F.	1/25/18	+	++	+	0	100.0	Unconscious	+	+	+	0	0	0	+	L	4
20. H. F. J.	1/25/18	0	+	+	0	101.0	Cloudy	+	+	+	0	0	0	0	L	6
21. L. C.	1/26/18	0	+	+	0	99.2	Dull	++	+	+	0	0	0	0	L	4
22. R. B.	1/26/18	+	+	+	+	?	Delirious	++	+	+	0	0	0	0	L	4
23. D. S.	1/28/18	0	0	0	++	102.0	Unconscious	+	+	+	0	+	0	0	L	2
24. L. A. H.	1/28/18	+	+	+	0	102.0	.....	sl	+	0	+	0	0	0	L	3
25. J. W. J.	1/28/18	+	+	+	0	100.0	Clear	+	+	+	0	0	0	0	L	4

* Number of spinal fluid cultures positive, 12, or 48 per cent. The comparatively low percentage of positive cultures from the spinal fluids is probably due to the fact that the spinal fluids became chilled during the interval, as very often an hour or more elapsed between the time of puncture and final delivery at the laboratory; while on the other hand, the blood cultures were carefully guarded against chilling.

† Sweats.

COMMENT

While Case 1 permits the conclusion of metastatic involvement during the course of the disease, Cases 2 and 3 indicate that the meningococcus infection may occur as a generalized bacteremia without causing noticeable meningeal symptoms.

The mediums as well as the method of carrying on this work are given in greater detail, because they can be followed under field conditions, and furthermore, on them depend in a large measure the results obtained in this series of cases.

Mediums Employed.—From 80 to 100 c.c. of meat infusion bouillon, salt free, are sterilized in 6-ounce medicine bottles. The advantages in the use of these containers lie in the facts that they are easily obtained, and that the narrow mouth reduces the chances of contamination.

To this bouillon are added 1 per cent. glucose and 10 per cent. serum water. This medium is stored in the incubator to be thoroughly warm at the time of inoculation. Two bottles are inoculated by the placing of from 15 to 20 c.c. of the patient's blood in each. A

Method of Making Subcultures.—From the bottom of the flask just above the sedimented blood cells, about 1 c.c. of the culture is withdrawn, poured over each of a series of 1 per cent. glucose-blood-agar plates, and incubated with the cover up. (A 2 per cent. agar plus 0.2 phenolphthalein, to which 1 per cent. of glucose and 15 per cent. of laked human blood is added.)

In from sixteen to twenty-four hours, the liquid has evaporated from the plate, and the growth appears as either a grayish-white gelatinous coat or as discrete colonies. At the time of transfer from the bouillon culture to the plates, a transfer is also made to a slant of the same medium by allowing 0.2 c.c. of the bouillon culture to run over the slant. This frequently gives sufficient growth for agglutinating purposes.

The colonies on an eighteen to twenty-four hour growth, with the employment of the foregoing medium, are from 0.5 to 3 mm. in diameter, and are round, with an even, circular, smooth edge and a smooth surface. By reflected light the colony appears gray and glistening, with a soft, velvety tone. By

transmitted light it has the general appearance of a drop of honey, though faintly hazy. When touched procedure frequently gives sufficient growth for agglutinating purposes.

SUMMARY

In this series of twenty-five cases, we have included only those cases in which, in the spinal fluid, organisms were found having the morphology of the meningococcus.

The findings in the three early cases induced us to make routine cultures.

The remaining twenty-two cultures were taken in consecutive cases, giving 36.3 per cent. of positives.

CONCLUSIONS

1. Systemic infection by the meningococcus is more frequent than previously suspected.
2. This systemic infection may occur without appreciable or with no meningeal localization.
3. Systemic infection may be previous to, or coexistent with, meningeal involvement.
4. Consequently the intravenous administration of antimeningococcic serum is rational, and is indicated in conjunction with the intraspinal treatment.

For the histories quoted in this communication, we are indebted to Major Herrick, M. R. C., chief of the medical service.

TABLE 2.—AGGLUTINATION OF STRAINS OF MENINGOCOCCUS

Case	Serum	1:50	1:100	1:200	1:400	1:800	N-H	N-S	1:1,600	Remarks
1*	..	..	..	..	..	..	..	..	..	Meningococcus from blood culture not typed
2*	..	..	..	..	..	..	..	..	..	
3 (202)	R. P.†	++	++	++	+	±	—	—	—	Cerebrospinal fluid culture
	1	++	++	++	+	±	—	—	—	
	10	+	+	±	—	—	—	—	—	
	30	++	+	±	—	—	—	—	—	
	60	+	±	—	—	—	—	—	—	
4 (212)	R. P.	++	++	+	±	—	—	—	—	Cerebrospinal fluid culture
	1	++	++	++	+	±	—	—	—	
	10	++	+	±	—	—	—	—	—	
	30	++	+	+	±	—	—	—	—	
	60	+	—	—	—	—	—	—	—	
(252)	R. P.	++	++	+	±	—	—	—	—	Blood culture
	1	++	++	++	+	±	—	—	—	
	10	++	+	±	—	—	—	—	—	
	30	++	+	+	±	—	—	—	—	
	60	±	—	—	—	—	—	—	—	
5 (264)	R. P.	++	+	±	—	—	—	—	—	Cerebrospinal fluid culture
	1	++	++	+	±	—	—	—	—	
	10	++	+	±	—	—	—	—	—	
	30	++	+	+	±	—	—	—	—	
	60	+	—	—	—	—	—	—	—	
(253)	R. P.	++	++	+	±	—	—	—	—	Blood culture
	1	++	++	++	++	+	—	—	—	
	10	+	±	—	—	—	—	—	—	
	30	+	+	±	—	—	—	—	—	
	60	—	—	—	—	—	—	—	—	
6	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
7 (257)	R. P.	++	++	±	—	—	—	—	—	Nasopharynx culture
	1	++	++	+	+	±	—	—	—	
	10	++	+	±	—	—	—	—	—	
	30	++	—	—	—	—	—	—	—	
	60	—	—	—	—	—	—	—	—	
(254)	R. P.	++	++	—	—	—	—	—	—	Cerebrospinal fluid culture
	1	++	++	++	++	+	—	—	—	
	10	++	±	—	—	—	—	—	—	
	30	++	+	—	—	—	—	—	—	
	60	±	—	—	—	—	—	—	—	
(265)	R. P.	++	++	+	±	—	—	—	—	Blood culture
	1	++	++	++	±	—	—	—	—	
	10	+	—	—	—	—	—	—	—	
	30	++	±	—	—	—	—	—	—	
	60	—	—	—	—	—	—	—	—	
8 (267)	R. P.	++	++	++	±	—	—	—	—	Cerebrospinal fluid culture
	1	++	++	++	++	+	±	—	—	
	10	+	±	—	—	—	—	—	—	
	30	++	++	+	±	—	—	—	—	
	60	+	±	—	—	—	—	—	—	
9	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
10	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
11 (281)	R. P.	++	++	+	±	—	—	—	—	Cerebrospinal fluid culture
	4	++	++	++	+	—	—	—	—	
	10	—	—	—	—	—	—	—	—	
	30	+	—	—	—	—	—	—	—	
	60	±	—	—	—	—	—	—	—	
(283)	R. P.	++	++	+	±	—	—	—	—	Blood culture
	4	++	++	++	±	—	—	—	—	
	10	—	—	—	—	—	—	—	—	
	30	±	—	—	—	—	—	—	—	
	60	—	—	—	—	—	—	—	—	
12 (282)	R. P.	++	++	++	++	++	—	—	—	Nasopharyngeal culture
	4	++	++	++	++	±	—	—	—	
	10	++	+	±	—	—	—	—	—	
	30	++	++	++	+	±	—	—	—	
	60	++	++	±	—	—	—	—	—	
(277)	R. P.	++	++	++	++	+	—	—	—	Cerebrospinal fluid culture
	4	++	++	++	++	±	—	—	—	
	10	+	±	—	—	—	—	—	—	
	30	++	++	++	±	—	—	—	—	
	60	++	+	±	—	—	—	—	—	
(284)	R. P.	++	++	++	+	±	—	—	—	Blood culture
	4	++	++	++	++	+	—	—	—	
	10	++	++	+	±	—	—	—	—	
	30	++	++	+	±	—	—	—	—	
	60	++	++	++	—	—	—	—	—	
13 (297)	R. P.	++	++	++	±	—	—	—	—	Cerebrospinal fluid culture
	4	++	++	++	+	±	—	—	—	
	10	++	±	—	—	—	—	—	—	
	30	+	±	—	—	—	—	—	—	
	60	++	+	±	—	—	—	—	—	
14	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
15	R. P.	++	++	++	±	—	—	—	—	Cerebrospinal fluid culture
	4	++	++	++	+	±	—	—	—	
	10	—	—	—	—	—	—	—	—	
	30	++	±	—	—	—	—	—	—	
	60	++	+	—	—	—	—	—	—	
16 (278)	R. P.	++	++	+	±	—	—	—	—	Cerebrospinal fluid culture
	4	++	++	++	+	±	—	—	—	
	10	++	++	±	—	—	—	—	—	
	30	++	++	—	—	—	—	—	—	
	60	++	++	±	—	—	—	—	—	
(285)	R. P.	++	++	++	±	—	—	—	—	Blood culture
	4	++	++	++	+	±	—	—	—	
	10	++	++	±	—	—	—	—	—	
	30	++	+	±	—	—	—	—	—	
	60	++	++	±	—	—	—	—	—	
17 (280)	R. P.	++	++	+	±	—	—	—	—	Cerebrospinal fluid culture
	4	++	++	++	+	±	—	—	—	
	10	+	—	—	—	—	—	—	—	
	30	++	++	±	—	—	—	—	—	
	60	++	+	—	—	—	—	—	—	
18 (313)	R. P.	++	++	++	+	±	—	—	—	Cerebrospinal fluid culture
	4	++	++	++	++	±	—	—	—	
	10	++	±	—	—	—	—	—	—	
	30	++	++	+	±	—	—	—	—	
	60	++	±	—	—	—	—	—	—	
19	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
20	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
21	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
22	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative
23 (304)	R. P.	++	++	+	±	—	—	—	—	Blood culture
	4	++	++	++	+	—	—	—	—	
	10	—	—	—	—	—	—	—	—	
	30	++	±	—	—	—	—	—	—	
	60	++	++	+	—	—	—	—	—	
24 (305)	R. P.	++	++	++	+	±	—	—	—	Cerebrospinal fluid culture
	4	++	++	+	+	—	—	—	—	
	10	+	±	—	—	—	—	—	—	
	30	++	++	—	—	—	—	—	—	
	60	++	—	—	—	—	—	—	—	
25	..	..	..	..	..	..	..	..	..	Culture cerebrospinal fluid and blood negative

* Blood culture negative.

† R. P. in this table refers to Rockefeller polyvalent serum. Nos. 1, 10, 30 and 60 are the Rockefeller type serums as furnished by the Army Medical School. These were furnished in two lots. The No. 60 of one lot has a cross agglutination titer of 1:400 with No. 10. The No. 4 serum was kindly furnished by Capt. Harold L. Amoss, M. R. C. Nos. 1 and 4 are representative of the normal or regular type. Nos. 10 and 30 are intermediates. No. 60 is a paramenin gococcus. It will be noted that these cultures belong to the normal or regular type.

STREPTOCOCCAL INFECTIONS FOLLOWING MEASLES AND OTHER DISEASES

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We have recently had opportunity to study the incidence and symptoms of streptococcal infections following measles, tonsillitis and other conditions associated with lowered resistance in soldiers, and to make observations on their pathology and symptomatology that are of assistance in diagnosis and in determining treatment.

During the fall and early winter up to the middle of December, 1917, approximately 200 cases of measles and fifty cases of rubella were treated, with complications in only three cases, otitis media in each instance, in one of which a mastoid infection required operation.

With the advent of "colds," acute bronchitis, pharyngitis and tonsillitis in the cantonment in late December and early January, a number of more serious complications appeared in measles patients as well as in soldiers in the hospital for other causes. The first one was a soldier convalescent from measles who was being held in quarters for the prescribed two weeks following his discharge from the hospital. The onset with chill, pain in the side, and fever suggested pneumonia, and pus was discovered by exploratory puncture only after several days of illness. Operation was attempted, but the patient died. Necropsy revealed that the entire process was not in any sense a true lobar pneumonia, but rather a lobular pneumonia followed by streptococcus pleurisy and empyema. Since the first case, all patients presenting pulmonary symptoms have been studied with the special object of detecting empyema early and instituting drainage. Without the frequent and careful use of the exploring needle, a number of these cases would undoubtedly have passed for lobar pneumonia, or "pneumonia following measles." Indeed, we have been led to maintain a specially close watch on cases of supposedly frank lobar pneumonia, especially those showing organisms classed as Type IV, and have repeatedly detected empyema in such cases.

PATHOLOGY AND BACTERIOLOGY

The necropsy findings have been quite constant. Mathers has studied and reported a similar group of cases from civil practice. While the pleura is most frequently involved, other serous membranes, pericardium, endocardium and peritoneum, have also frequently been affected. In general the pathologic findings are those of septicemia with serofibrinopurulent pleurisy, pericarditis, mediastinitis, endocarditis or peritonitis, and in one case coincident arthritis. In early cases the inflammation is fibrinous, and there is much clinical evidence that the accumulation of fluid is a late and very rapidly developing process. In one case, occurring in the second week of measles, a primary peritonitis with initial symptoms referred to the right lower abdomen led to the drainage of a supposed atypical appendical abscess. At the necropsy an intact appendix, extensive pelvic, retrocecal and subphrenic peritonitis, recent general peritonitis, and secondary right empyema were found. In another case of general streptococcal infection with positive antemortem blood cultures following diphtheria, necropsy revealed terminal bronchopneumonia, acute purulent bronchitis, acute fibrinous pleurisy and left suppurative cervical lymphadenitis and gluteal abscess.

In the fourteen cases coming to necropsy, general serofibrinopurulent pleurisy, either primary or secondary, was present in all except one. The exudate was similar in all, lemon tinted serous fluid more or less turbid containing pus cells and enormous numbers of streptococci. Most of the pus cells were attached with fibrin to the pleura, forming a thick adherent matlike layer on the pleural surfaces. In some cases in addition to the main pleural involvement, smaller interlobar pockets of thicker yellowish green exudate were found, some having the appearance of a somewhat older lesion in which granulations could be demonstrated. Bronchopneumonia, more or less extensive, sometimes almost lobar in distribution, was present in all. Compression atelectasis often made difficult the interpretation of the macroscopic examination. Mucopurulent bronchitis was present in all cases, and in many cases tonsillitis and laryngitis with edema were made out. As Mathers has pointed out, general lymphatic enlargement, peribronchial, mediastinal, cervical and mesenteric, is generally present. The spleen, however, was only slightly enlarged, and in some there was no appreciable enlargement.

It is perhaps a debatable question whether the course of events is bronchitis, bronchopneumonia and finally empyema, or whether the lesion is primarily a serous membrane infection with, in the pleurisies, secondary invasions of the lung. Certainly we have sometimes found such a rim of infiltrated lung lying next to the infected pleura. Possibly a middle ground may be taken, that in many cases the primary infection reaches the pleura by extension from a bronchopneumonia more or less extensive, but that in other cases the origin is hematogenous, as in the case of septicemia following diphtheria. Further evidence in favor of the direct hematogenous infection of serous membrane is found in the fact that in two instances the infection occurred first clinically in the peritoneum, pus being demonstrated by operation in one, and in both at necropsy; in one, peritonitis was evidently as old as, and in the other much older, than the accompanying empyema. In the latter a recent vegetative endocarditis was also present.

In all fourteen cases coming to necropsy, streptococci (usually hemolytic) were obtained by culture from the heart blood or spleen and from the pleural or pericardial or peritoneal exudates. In three cases, streptococci were recovered in blood cultures antemortem. In several cases also of the group of convalescent drained empyemas, streptococci were obtained in blood cultures during the height of the infection.

The sputums have been typed, some by the use of mice, some by direct culture in blood glucose broth. None of the organisms thus cultivated from these cases has agglutinated with antipneumococcic serums of Types I, II or III.

During the latter part of the period of acute respiratory infections, large numbers of throat cultures of selected companies were being made for other purposes on blood agar plates. Hemolytic streptococci were observed in these cases in about 70 per cent. of the men examined, showing the widespread distribu-

tion of streptococcal infection in soldiers apparently healthy.

CLINICAL COURSE

In the majority of the thirty cases studied, the chief symptoms were pulmonary, with a history in most of these of "cold," and of severe cough in many. In several the history was that of a sudden onset with chill and pleural pain; but even in these a more careful inquiry elicited the statement that there had existed an antecedent bronchitis. In the case of primary peritoneal infection following measles, the first symptom was lower abdominal pain.

The physical signs are frequently misleading, especially in the cases in which the early course is that of pneumonia. In these, signs of consolidation, perhaps irregular in distribution, may be made out; and without marked alteration in physical signs, the more serious condition of the patient indicates an extension of the process. This extension may of course be due to additional lung involvement, or increase in severity of the septicemia; but not infrequently, exploratory puncture yields a streptococcus-laden pleural exudate. In other cases in which the physical signs have been carefully observed and recorded from day to day, the rapidity with which the empyema develops, with displacement of the apex beat and other coincident signs within a few hours has been repeatedly remarked. The puzzling physical signs have been in part explained in some of the cases in which operation has been performed, and in some at necropsy by the finding of extensive adhesions both old and recent, which prevented the distribution of pus, characteristic of fluid in a chest in which the pleura is free.

In some fatal cases in which pulmonary signs were of only four or five days' duration, the pathologic findings indicated that pleurisy, often interlobar, must have been present previously, at a time when the patient was in relatively good physical condition with little or no fever.

In addition to frequent examination and the careful use of the exploring needle, the fluoroscope has been of assistance. Repeated leukocyte counts also have helped to determine an increase in the extent of the infection.

In the care of these cases it is important to bear in mind that this type of empyema is entirely different in its clinical course from the empyema that follows true lobar pneumonia. The exudate usually contains enormous numbers of streptococci, and on early operation and thorough drainage depends the chances of recovery. Even when early drainage is obtained, the infections of other portions of the pleura not accessible to drainage by reason of adhesions, the simultaneous infection of the pericardium, and the severity of the blood infection, preclude the possibility of recovery in some cases. In four of the fatal drained cases, vegetative endocarditis was found.

SUMMARY

Of the thirty cases, including fourteen fatal cases, twelve followed measles; and in eight, the physical signs of consolidation (in the cases examined at necropsy, bronchopneumonic in distribution), which preceded the demonstration of the empyema, led to a primary diagnosis of pneumonia. Our experience with these streptococcal infections suggests that while measles is an important predisposing factor, other infections, as bronchitis, tonsillitis, diphtheria, and other conditions, such as exposure and excessive fatigue, must be included—in short, anything that may reduce resistance to infection by an organism quite generally distributed during the epidemic of colds and bronchitis, in the noses and throats of the apparently healthy as well as the sick.

Special Article

SYNTHETIC DRUGS II*

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(*Continued from page 537*)

It has been suggested that the new official names for licensed synthetic drugs be kept prominently before physicians until they have become by repetition familiar to the profession. They are:

ARSPHENAMINE, introduced as "salvarsan."
PROCAINE, introduced as "novocaine."
BARBITAL, introduced as "veronal."
BARBITAL-SODIUM, introduced as "veronal-sodium."

SELECTION OF SYNTHETICS

One of the most impressive lessons taught by the stoppage of importations of synthetic drugs as a result of the war is the fact that only a comparatively small proportion of the synthetics still protected by patents and introduced into this country and widely advertised before the war has been found essential for the proper medical care of the people. Of this small proportion, only a very few have been in such urgent and widespread demand that manufacturers have been glad to undertake their preparation without feeling that they were entering on the enterprise simply as an act of patriotic sacrifice. There has been a rush for licenses for the manufacture of arsphenamine, procaine and barbital, the eagerness of would-be licensees falling off for these drugs in the order in which they are named. In the case of other patented synthetics, with the sole exception of phenyl cinchoninic acid (introduced as atophan) which will be discussed below, there has been manifested considerably greater reluctance on the part of manufacturers to embark on their preparation. This situation has been due primarily to the fact that the demand for the drugs mentioned is a very large one and offered a good market, while for other synthetic drugs the demand has not been as attractive from the point of view of quantities of supplies needed.

In view of the situation and because the committee of the National Research Council felt that the wise course would be to concentrate its efforts to interest manufacturers in the most essential of the long list of synthetic drugs, eminent physicians have been consulted in regard to what synthetic drugs were most important. The result of this inquiry will now be given, together with such information concerning the status of each drug mentioned as is at hand. The list includes, besides synthetics protected by patents, for the preparation of which licenses are required, also synthetic drugs which are not protected by patent and for the manufacture of which no licenses are required, as well as, in one or two instances, drugs

* The information conveyed in these articles is based on the latest reports to the writer: it is probably not complete as to all details, but is published now to avoid further delay in bringing the main facts before the medical profession. The writer will be glad to receive information to be used later according to his best judgment.

which are not synthetic preparations but which have been included on account of their specific importance.

THE STATUS OF SYNTHETIC DRUGS CONSIDERED ESSENTIAL

1. *Anesthetics* (local).—The subject of licensed local anesthetics was discussed in the first article.[1]

While there has been considerable demand for *orthoform-new* (methyl meta-amino-para-oxybenzoate $(NH_2)(OH)C_6H_3CO_2CH_3$), the supplies of the drug were reported to the committee as exhausted. Anesthesine (see below) is an excellent substitute for this drug; it is said in some respects to be superior to it,[2] presumably on account of the absence of the phenolic hydroxyl group and perhaps also because of the presence of an ethyl rather than a methyl alcohol group.

Anesthesine, ethyl para-amino-benzoate ($H_2NC_6H_4.CO_2C_2H_5$) is easily prepared, for instance, in the course of the manufacture of procaine, from para-nitrobenzoic acid. It may be obtained from the Farbwerke Hoechst Company, 122 Hudson Street, New York. The Abbott Laboratories, Ravenswood, Chicago, holders of a license to manufacture procaine, are also preparing to make anesthesine.

Holocaine hydrochlorjde, acet-di-para-oxyphenyl-amidine hydrochloride $CH_3C:(NC_6H_4OC_2H_5)(NHC_6H_4OC_2H_5).HCl$, especially needed for the work of oculists, has only recently been brought to the attention of the committee. It is closely related to acetphenetidine, which may be converted into holocaine by a comparatively simple process. A manufacturer in possession of large stocks of acetphenetidine has been urged to meet the demand for holocaine, and there is no question that the drug can be supplied.

2. *Antipyretics.*—Acetanilid, acetphenetidine (introduced as phenacetine) and acetylsalicylic acid (introduced as aspirin) are being manufactured now by a long list of American firms. Pyramidon, dimethyl-aminoantipyrine, is available from the Farbwerke Hoechst Company, 122 Hudson Street, New York. Any manufacturer of antipyrine can easily extend his process to include the preparation of pyramidon.

3. *Antisyphilitics.*—Arsphenamine and neo-arsphenamine were discussed in the previous article.

4. *Diuretics and Uric Acid Eliminants.*—Phenyl-cinchoninic acid (introduced as atophan): The patents for the manufacture of this drug are claimed to be invalid. The question as to the issuance of licenses for its manufacture is now under consideration by the Federal Trade Commission. It may be obtained from Schering and Glatz, 150 Maiden Lane, New York, the former agents for the German product. It is reported that it is being manufactured by the Calco Chemical Company, Bound Brook, N. J., for Schering and Glatz. The Abbott Laboratories, Chicago, also have planned to manufacture phenyl cinchoninic acid.

Theophyllin, dimethyl-xanthin. (Theocin is a brand name applied to the product of the Bayer Company, Inc., New York.) Merck & Company are prepared to furnish small quantities of theophyllin. Bayer & Company, when last heard from, had no more theocin and did not expect to have any in the immediate future. Thus far the committee has been unable to interest any other manufacturer in the preparation of this article. It is not a simple product to synthesize.

5. *Hypnotics.*—Barbital and barbital-sodium were discussed in the first article. Chloral hydrate, sulphonal and trional, are manufactured by a series of American firms.

Phenylbarbital, phenyl-ethyl-barbituric acid $(C_6H_5)(CH_3)C.CONHCONH.CO$, introduced as luminal, is in considerable demand for the treatment of epileptic cases. Merck & Company, 45 Park Place, New York, still have supplies of this drug and of its sodium salt, and the same firm is preparing to manufacture these products. The process of manufacture has been worked out in the chemical laboratory of the University of Chicago by Miss Mary Rising and the author. During the course of the work some improvements have suggested themselves, the results of which will shortly be published for the benefit of any would-be manufacturer.

(To be continued)

1. Stieglitz, Julius: Synthetic Drugs, THE JOURNAL A. M. A., Feb. 23, 1918, p. 536.
2. Anesthesin, New and Nonofficial Remedies, 1917, p. 28.

Therapeutics

HAY-FEVER

This troublesome condition is most frequent in the late summer and early fall months, but it may occur at other times of the year in different climates, depending on the susceptibility of an individual to various pollen-bearing plants. While bacteria may increase the intensity of the disease, or may cause a patient to become susceptible to it, still hay-fever is probably always caused by irritating pollen.

The disease is present only in regions where pollen-rich plants predominate, and occurs only when these plants have reached the stage of disseminating the pollen, or when the pollen is artificially introduced into the nostrils of a susceptible person. When a patient is removed from all source of pollen, or when the offending weeds are destroyed in the region in which the patient lives, hay-fever does not occur.

Hay-fever is no respector of persons, and may occur at any age, in both sexes and in any civilized race. It is more frequent, however, in males, and more frequent in the white race than in the colored race. The age of greatest susceptibility, or the age at which most cases develop, seems to be in the decades from 10 to 40. This age of greatest incidence and the reason that males are more affected than females may signify the age and sex most exposed to pollen.

Scheppegrell,[1] president of the American Hay-Fever Prevention Association, finds that hay-fever may be artificially produced at any time in hay-fever subjects. If the inoculation of the irritating pollen, which he finds to be the male elements of the flowering plants, is given to the patient at another period of the year than the hay-fever season, the length and degree of the attack may be accurately controlled. This is because, unlike micro-organisms, the male elements of these pollens cannot reproduce themselves.

The reaction from these pollens he divides into the direct and indirect effect. Some produce the reaction by the local mechanical irritation, and this perhaps even in persons not susceptible to hay-fever. In insusceptible subjects, the reaction ceases as soon as the pollens are discharged. The indirect effect occurs in susceptible persons who are poisoned by absorption of some toxalbumin contained in the pollen.

While the pollen of many plants may cause hay-fever reaction when applied directly to the nostrils, it

1. Scheppegrell, W.: Hay-Fever and Hay-Fever Pollens, Arch. Int. Med., June, 1917, p. 959.

is only the wind-borne pollens that need to be considered in hay-fever. Scheppegrell states that it is characteristic of hay-fever weeds that they have no attractive flowers or perfumes, and these hay-fever plants are "the ragweeds, wormwoods, cockleburs, careless weeds and grasses." In the United States, the spring type of hay-fever is caused by the grasses, while the fall types are caused more by the ragweeds, the cockleburs and the wormwoods. While it seems to be a fact that goldenrod is a cause of hay-fever, Scheppegrell doubts that it is a frequent cause.

SUSCEPTIBILITY AND PREDISPOSITION

There can be no question that a susceptibility to hay-fever must exist since so few persons (1 per cent., according to Scheppegrell) in a locality overrun with these weeds are subject to the affliction.

Cooke, Flood, and Coca,[2] after careful investigation of the subject of sensitization, sum up thus:

1. Hay-fever is the clinical symptomatic expression of local hypersensitiveness. The active pollen substances are not toxins.

2. The hypersensitiveness is established spontaneously and never by immunologic process. This has been shown in two ways: first, by the observation that individuals may be sensitive to pollens of plants that are indigenous in foreign countries and with which they have never come in contact; and second, by the observation that individuals who are naturally sensitive to one protein only cannot be artificially sensitized to another protein, either animal or vegetable.

3. The sensitization is not directly inherited, although the tendency to spontaneous sensitization is inherited as a dominant character.

4. The antibody-like substances of human sensitization are not demonstrable in the blood of sensitive persons by any of the immunity reactions. They are present in the cells of the sensitive tissues. They cannot be increased artificially by the usual process of immunization.

5. The mechanism of the alleviating effect of specific, that is, pollen extract therapy, is the same as that of desensitization in experimental anaphylaxis. The freedom from symptoms lasts as long as the respective "antigenic" substances remain in combination with the antibody-like substances in the tissues.

Persons that are attacked by hay-fever may be predisposed by some other cause than a peculiar hypersensitiveness of the mucous membrane of the nose. These patients, many times, are found to have anatomic malformations, such as hypertrophic turbinates or deviated septums, or other obstructive or irritative conditions in the nostrils, and many of these patients are cured by the removal of these abnormal conditions. In other instances more or less incurable pathologic changes may be present in the mucous membrane of the nose and adjacent sinuses. Furthermore, a neurotic individual may be more hypersensitive to this irritation than other persons without any assignable physiologic, pathologic or anatomic excuse.

On the other hand, as shown by Strouse and Frank,[3] persistence of a hay-fever attack may well be due to an associated bacterial acute or subacute infection. An associated infection may allow more of the pollen irritant to become absorbed, and the disease is then intensified and more difficult to cure.

True hay-fever due to pollen should be differentiated from similar conditions caused by emanations from animals, such as the horse, cat or dog, and from odors from certain fruits, flowers, and from ipecac and musk. Sneezing, lacrimation, coughing and asthma may occur in some persons, who have such peculiar idiosyncrasies. Bronchial asthma may occur as a separate entity, or be associated with or follow hay-fever; hence its treatment often is the same as that of the hay-fever.

The symptoms of an attack of hay-fever may begin immediately on inhalation of the pollen, or they may be delayed for a few hours; but sneezing, congestion of the nostrils, reddening and itching of the eyelids or of the inner canthi of the eyes, irritation of the roof of the mouth and throat, and soon more or less spasmodic attacks of sneezing are the primary symptoms. Later rhinitis may occur, with more or less conjunctivitis, pharyngitis and bronchitis. There may be temporary increased temperature, but soon there is depression, more or less weakness, and often subnormal temperature.

GENERAL TREATMENT

1. All predisposing causes should be ascertained, and if possible, removed.

(*a*) Hypertrophic and sensitive mucous membrane of the turbinates should be removed. An obstructive and deflected septum should be corrected. An infected sinus should be cleaned.

(*b*) All infected areas in the mouth and throat should be removed.

(*c*) Meat and purin bases should be removed from the diet. Although the diet should be nutritious, it should contain no irritating substances, such as mustard or other condiments. Tea, coffee and, of course, alcohol are contraindicated. Fish, strawberries, and any other food that is likely to cause anaphylactic irritability should not be allowed.

(*d*) The bowels should be carefully regulated so that toxic intestinal substances are prevented from entering the circulation and adding to the disturbing elements already present in the blood.

(*e*) Alkalis should be administered to decrease any possible hyperacidity of the system. There is no better alkali than sodium bicarbonate, which should be administered for a few days at least in a dose of 1 gram (15 grains) every three hours. It is pleasantly given as an effervescing salt, or it may be given in combination with a small amount of bismuth subcarbonate, as:

Bismuth subcarbonate..... 5 gm.
Sodium bicarbonate..... 20 gm.
Mix, and make 20 powders
Take a powder, with water, every three hours.

This small amount of bismuth may prevent the slight irritation of the mucous membrane of the stomach that may occur from the sodium bicarbonate.

If preferred, potassium citrate may be the salt administered. The dose should be 2 gm., given in wintergreen water, and administered four times a day. There is no question that alkalis many times diminish the irritability caused by anaphylaxis, and it has long been recognized that alkaline sprays in the nostrils are of benefit, and alkaline gargles are soothing, in hay-fever.

(*f*) Calcium is often of value in hay-fever, as it is in hives, in angioneurotic edema, and in some forms of asthma. Calcium may be administered as calcium lactate, or as the more irritant calcium chlorid. If the lactate is used, and especially if the chlorid is used, it should be administered after food has been taken, and then largely diluted.

2. Cooke, R. A.; Flood, E. P., and Coca, A. F.: Hay-Fever, Jour. Immunol., 1917, **2**, 217.

3. Strouse, Solomon, and Frank, Ira: Pollen Extracts and Vaccines in Hay-Fever, THE JOURNAL A. M. A., March 4, 1916, p. 712.

(*g*) An associated bronchitis should be treated as though the hay-fever were not a factor.

(*h*) A weakened heart should be strengthened. The persistent sneezing and the frequent coughing in hay-fever always more or less weaken and temporarily, at least, dilate a heart, and a hay-fever patient generally is improved by digitalis. Of course, if the heart is sturdy, if there is arteriosclerosis and hypertension, digitalis may not be indicated, and nitroglycerin may be of value. Strychnin is generally inadvisable, on account of its increasing the general nervous irritability.

2. If possible, all pollen-bearing weeds in the immediate neighborhood of the patient's home should be destroyed; otherwise the patient must migrate to some pollen-free region.

3. The symptoms should be ameliorated. Most patients certify to the relief obtained from simple alkaline sprays in the nose and throat. Such treatment is well represented by alkaline tablets, consisting essentially of sodium bicarbonate and borax, dissolved in 60 c.c. (2 fluidounces) of warm water. Epinephrin sprays, in solution of 1:10,000, are used, and are frequently of value. It may also be used as an ointment of 1:1,000, and a small portion placed in each nostril. Some persons, while getting immediate relief from epinephrin solutions, later have increased congestion and extra sneezing, but the majority of patients are benefited. Sometimes a weak menthol, or menthol and camphor, oil spray or ointment benefits the patient. While cocain may be used by the physician in his office, if he thinks it advisable in an individual case, such solutions should not be given to the patient, and should not be used frequently by the physician. Boric acid washes and eyedrops will generally relieve the itching of the eyes and eyelids and will be soothing in conjunctivitis. If the nasal discharge is very profuse and watery, atropin sulphate in a dosage of 1/500 grain every two hours may be given until there is a dryness of the throat.

If there is much asthma and the patient wheezes and has hard work to get his breath, and the bronchial secretion is not sufficient, sodium iodid in a small dose to cause an increased secretion may be good treatment, although it will almost invariably increase the nasal secretion.

4. The only drugs that have proved of much value in hay-fever are quinin and antipyrin, and these are not very efficient. Large doses of quinin have been found successful in some cases. Antipyrin in large doses has also modified the attacks, much as it may modify the paroxysms of a whooping cough; but the doses must be large, and during its administration the heart should be protected by digitalis. Arsenic and strychnin have been advocated, but have not been proved of much value.

SPECIFIC TREATMENT

Preventive.—Before it is decided to use a pollen extract, it is advisable to ascertain the particular pollen to which the patient is susceptible. The skin test is safe and generally satisfactory; the eye test is hardly justifiable. Various dilutions of different pollen extracts should be tried in this test. The arm is generally employed for this purpose. Several scratches through the epidermis are made, and a drop of the pollen extract, beginning with a well diluted solution, of first one hay-fever weed and then another, is used to note the sensitivity. A patient sensitive to an extract soon shows local irritations at the point of absorption. As soon as the pollen that causes reaction is found (the reaction occurring in from five to fifteen minutes), various dilutions of this particular pollen may be tested to determine the dose correct for this particular patient, and the first dose of injection should be the dose which fails to excite a skin reaction. The first subcutaneous injection should not be given until after all symptoms of the local skin test reaction have subsided.

Turnbull[4] has demonstrated something that seems to be of practical interest: He found that some of these hay-fever patients showed a cutaneous reaction from the proteins of wheat, barley, oats, corn and rice, and some even showed a reaction, especially to wheat, on the respiratory tract. Therefore, he believes that hay-fever patients should avoid bread and boiled cereals, and use only the dry, prepared cereals, and he finds that patients so arranging their diet are more quickly cured of their hay-fever.

As it is not always feasible to test out the individual pollens as described above, the stock preparations of mixed spring or fall pollens may be used. Full directions for the use of these pollen extracts for diagnostic purposes, for immunization, and for curative purposes, come with the package.

The preventive treatment of hay-fever should be begun about eight weeks prior to the season in which the patient is susceptible. Ordinarily from ten to fifteen injections are required, and they should be given at two or three day intervals, depending on the amount of reaction. If symptoms of anaphylaxis or hay-fever symptoms occur, the dose should be smaller and less frequent. If the patient, from such injections, is immune for that year, he may be immune to the hay-fever pollen the following year; but it seems to have been shown that this immunity is only weak and rather ineffective by the third year. However, sufficient statistics have not yet been offered to show how long an immunity may last; also failure to produce immunity must be expected. The theory of this treatment is that a person sensitive or sensitized to a certain pollen may be desensitized by exhausting from the body cells the specific proteolytic enzymes by the pollen protein injection.

Curative.—Theoretically and practically there can be no antiserum prepared to treat pollen infection or hay-fever. Rarely, perhaps, the hay-fever may be aborted, after it has begun, by a few injections of a pollen extract; but not enough data have been presented to show the value of the vaccine treatment during the active process of hay-fever. The symptoms could easily be aggravated and perhaps become serious by a large dose of pollen extract. Consequently, only very small doses should be tried, at first, to see what reaction the patient shows, and with gradually ascending doses the susceptibility can be ascertained and the pollen curative treatment tried.

It would be inexcusable, however successful in individual cases the pollen treatment might prove to be, to omit the therapeutic suggestions already mentioned.

It would also be inexcusable to depend on possible immunization for the following year by means of pollen extracts and to omit a careful study of the patient to eliminate, if possible, all predisposing causes of hay-fever disturbances.

4. Turnbull, J. A.: Boston Med. and Surg. Jour., 1916, **175**, 931.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MARCH 9, 1918

THE ABDERHALDEN REACTION

Few reactions that have found application in clinical medicine have been the subject of as much controversy within a short period of time as have those which are known as Abderhalden's tests for pregnancy, cancer, etc. These are based, it will be recalled, on the assumption that the introduction of foreign proteins of any kind into the circulation promptly leads to the appearance therein of specific protective enzymes which will digest the strange proteins or their derivatives, but will not split other proteins. The extraordinary power of the body to develop such special enzymes so readily and so rapidly has been the subject of much speculation. The analogy of an antitoxin arising as the result of the introduction of a toxin into the organism has often been commented on in this connection.

The preponderance of the discussion has related to the alleged specific reaction in pregnancy, in which, according to Abderhalden's theory, the foreign protein reaches the blood from the placenta. Numerous investigators have maintained that a "test" can often be elicited with the blood of males as well as that of females; that is, the serum of the male may digest placental protein as well as blood of the opposite sex does. To such allegations Abderhalden has been wont to reply that the technic of the tests has not been properly mastered; but, as one commentator has remarked, the details of the technic appear to be so elaborate as to destroy the value of the test for practical investigators. We have further discussed even more serious criticisms of the specificity of the Abderhalden test, notably the findings of Van Slyke[1] and his colleagues, who have experimented under the most careful conditions and likewise have found no essential differences in the proteolytic power of male and female serums toward placental protein.

Boldyreff[2] of Kasan also has found that the serum of males sometimes gives a positive, sometimes a negative, result. He believes that the variable outcome depends on the state of the digestive organs. It is maintained by Boldyreff[3] that the alimentary canal, with the exception of the gastric glands, is not at rest between the acts of digestion. According to his conception of the "periodic function" of the organism, the activity of the pancreas and the intestinal juice is manifested in a definite rhythmic way between the periods of digestion of the food. As a result, the secretions of the glands pass into the empty intestine; they are presumably absorbed from the small intestine, and therefore, their enzymes are at times discoverable in the blood.

Such, then, is Boldyreff's conception of the origin of Abderhalden's protective enzymes, which, accordingly, would occur in both sexes, as has been reported. If the explanation is tenable, we need not look to blood cells for the origin of the blood enzymes. Boldyreff asserts that the latter act not only on placenta protein but on other varieties of albuminous substance as well. Abderhalden's method, he concludes, is a good one for detecting the presence of proteolytic enzymes in the blood; but as a distinctive sign of pregnancy it is useless. This criticism is in harmony with the adverse criticisms that we have mentioned in the past.[4]

1. The Specificity and Utility of the Abderhalden Reaction, editorial, The Journal A. M. A., April 8, 1916, p. 1117.
2. Boldyreff, W.: Abderhalden's Reaction, Jour. Physiol., 1917, **51**, Proceedings of the Physiological Society, p. 22.
3. Boldyreff, W.: Quart. Jour. Exper. Physiol., 1916, **10**, 175.
4. Abderhalden's latest communication on the subject was summarized in The Journal, March 2, 1918, p. 658.

THE USE OF CYANID IN THERAPY

To those now studying or practicing medicine, prussic acid connotes a poison of high toxicity and extremely dangerous qualities. The physician will not think of this admittedly poisonous compound in terms of therapeutic possibilities unless, perchance, he is old enough to recall the use of hydrocyanic acid in the cough mixtures that were concocted a generation ago. Nevertheless, the pharmacologist is well aware that hydrocyanic acid in suitable doses is one of the strongest known stimulants for the respiration. The disuse of so potent an agent cannot be attributed to the lack of critical situations in which the facilitation of respiration is called for. We must, therefore, conclude that either the fear of the drug's extreme toxicity, or its evanescent action, or some other undesirable feature has served to eliminate prussic acid and its salts from the therapy of today.

Respiration is a function of such indispensable character that the control of it in emergencies is an indisputable desideratum. In drowning, in stoppage of breathing during deep anesthesia, in extreme hemorrhage, and during undue intracranial pressure, the danger of failure of respiration often dictates the remedial procedures and determines the final outcome. Efforts directed to the relief of such danger crises can only be welcomed provided they rest on a background of rational therapeutics. It is in this

spirit that we refer to a recent attempt of Loevenhart, Lorenz, Martin and Malone[1] to gain recognition anew for an abandoned drug. Substituting sodium cyanid for the older volatile hydrocyanic or prussic acid, they have shown the effects to be essentially the same. Potassium cyanid is avoided because of the depressing effects of potassium salts on the heart. The uncertainty of absorption is avoided by the use of intravenous medication, the cyanid being injected dissolved in physiologic sodium chlorid solution. The effect of the substance is truly ephemeral; but by means of slow continued or repeated injections, stimulation of respiration of almost any degree of intensity can be secured.

The transitory character of the results, due to the rapid detoxication of the cyanid in the body, presumably by conversion to nontoxic sulphocyanate, is an advantage rather than a disadvantage when a speedy action for emergency needs is the essential. Baneful after-effect and cumulative phenomena are thereby more readily avoided. The Wisconsin investigators, who have already undertaken clinical researches in suitable cases under the guidance of their observations in the experimental pharmacology of cyanid, insist that the factor of safety in the intravenous administration of fiftieth-normal sodium cyanid is sufficiently large for clinical purposes. Warning symptoms of overrapid dosage are afforded by marked pallor, nausea, marked increase of pulse rate and the depression rather than stimulation of respiration that follows too rapid injection of too large a dose. In their own experience they noted no disagreeable symptoms whatever. In addition to the desired stimulation to respiration, there was evidence of stimulation of other parts of the cerebrum, especially the psychic functions.

As Loevenhart and his colleagues remark, it would seem superfluous to advise caution in the use of cyanid in therapy. Nevertheless, the evidence now at hand makes it seem worth while to give consideration anew to a procedure which promises to assist in the difficult task of resuscitation from drowning, to avert embarrassment of respiration in the accidents of anesthesia, to tide over the dangers of intracranial pressure until decompression can be accomplished, and to assist artificial respiration in other emergencies. No form of intravenous therapy is safe for the trials of a novice, yet we must not on that account stand aloof from procedures that call for intelligence and skill. Progressive therapy—in contrast with lackadaisical routine prescription writing—may find something quite worth while in the restoration of cyanid to the list of compounds worthy of consideration, even if a final verdict as to its real usefulness may be deferred for the present.

1. Loevenhart, A. S.; Lorenz, W. F.; Martin, H. G., and Malone, J. Y.: Stimulation of the Respiration by Sodium Cyanid and Its Clinical Application, Arch. Int. Med., January, 1918, p. 109.

THE HEALTH OF WOMEN WAGE EARNERS

The entrance of women into vocations once regarded as the exclusive province of male labor has been enormously accentuated by the needs of wartime service throughout the world, although the movement in this direction was well initiated in some fields even before the present conflict. Most civilized countries have provided special legislative protection for women wage earners.[1] It is said that in many respects American legislation lags far behind the legal protection already afforded by leading European countries to the women who, with slighter physique, are competing with men or are replacing men amid the special health hazards of modern industry.

In contemplation of the steps that are yet to be taken, it may properly be asked to what extent physical or physiologic reasons dictate a special consideration of women, in contrast to men; and whether the emphasis of future legislation should not be placed, in its fundamental rather than any specific aspect, on the worker and the character of the task rather than on the sex of those engaged in it. It certainly requires no argument to convince a medical man of the deserts of women at the time of childbirth, during the period of pregnancy, and long after delivery. It is also not improbable that the menstrual period demands special consideration, although more than one writer has begun to protest against classing this as a periodic disability to be charged against the sex.

Are there any inherent further peculiarities that furnish a rational and scientific basis for distinctions between workers? In what respect is woman exposed to health dangers that do not so seriously threaten men? The usual statement is that "with a physique slighter and less strong, woman has not the same power to resist conditions which insidiously break down health and which predispose to more serious disturbances."[1] Yet although woman has fortunately been kept away from the more dangerous occupations, such as those involving the use of poisons or the presence of harmful dusts and gases, although she has usually been kept away from the underground work in mines and out of the chemical industries, there are very few investigations available as a basis for sound and effective extension of legislation.

Viewing, as we do, the more intensive cooperation of women from month to month in the hard work of today, we may therefore turn with some relief to certain tentative conclusions that have been arrived at by Mosher and Martin[2] in a study of the muscular strength of college women at Stanford University,

1. A summary of conditions existing prior to the war is given by Andrews, Irene O.: The Protection and Promotion of the Health of Women Wage Earners, in Kober and Hanson: Diseases of Occupation and Vocational Hygiene, Philadelphia, 1916, p. 831.

2. Mosher, Clelia D., and Martin, E. G.: The Muscular Strength of College Women, with Some Consideration of Its Distribution, THE JOURNAL A. M. A., Jan. 19, 1918, p. 140.

California. They submit that there is no difference in the muscular strength of men and women which is due to sex as such. The differences frequently found are attributable to differences in the use of the muscles, brought about by the conventional limitations of activity or by dress. A high degree of muscular power in a woman, Mosher and Martin add, in no way lessens her racial efficiency. Lack of muscular power, as in the pectoral muscles, may be a distinct racial disability.

Whatever social or personal preferences may dictate, the need of woman's work at the present time is beyond dispute. Aside from the ethics or the philanthropy of the situation, it is gratifying to learn that woman is not penalized with all the insurmountable physical handicaps with which tradition has invested her; nor is she likely to suffer from the actual exercise of powers with which she has been endowed perhaps in more generous measure than either mankind or woman herself has suspected. The poet may still be content with the Sanskrit characterization of woman:

> There in the fane a beauteous creature stands,
> The first best work of the Creator's hands,
> Whose slender limbs inadequately bear
> A full-orbed bosom and a weight of care;

but the physiologist has discovered far greater potential powers in the so-called "weaker" sex.

FOOD AND OBESITY

It is easy to assert in an offhand way, as do the majority of writers on nutrition, that obesity or the deposition of fat in the body is due to "superalimentation or the consumption of food in excess of the requirements," and that this is aided by "insufficient exercise, diminished metabolism, or nutritional disturbance of glandular and trophic origin."[1] Leaving aside the accepted instances of admitted pathologic obesity, there remain the familiar types of persons in whom we somehow suspect an indefinable "disposition" toward corpulence. They will frequently deny that their food intake is unduly liberal, and they may even claim to observe abstemiousness in diet. Not infrequently one may see specimens of the obese and the thin in the same family and household under common conditions of diet which fail to suggest any obvious explanation for such inequalities in size. Thus it has come about that obesity has been regarded by many students of physiology as an exemplification of an altered metabolism—as a lowering of the exchange of materials with a consequent deposition of fat. In a classic experiment by Rubner,[2] who compared the metabolism of a boy who was obese with that of his brother, the fat brother proved to have a larger total metabolism than the lean one, but also a larger body surface. Compared on the basis of their surface areas, the metabolism of the boys was the same.

1. Tibbles, W.: Dietetics or Food in Health and Disease, 1914, p. 452.
2. Rubner, M.: Beiträge zur Ernährung im Knabenalter, 1902.

Friedenthal[3] has suggested that the complaint of many corpulent persons can be understood when they declare that they continue to put on weight with an absolutely lower ingestion of food. In ratio to their small proportion of active tissue (contrasted with fat depots or inert tissue), the ingested food is frequently not small, so that a portion of it is still available for weight increment. Reviewing the somewhat conflicting views on this subject a few years ago, von Fürth[4] remarked that perhaps it would be best to foresee that the methods of investigation now at our command are not good enough to allow us to say that there is a true and constant abnormality in the metabolism of all obese individuals; which does not say, however, that such fault does not exist.

Abnormalities of a still different order have also been attributed to the body that is obese. It has been charged with a sort of metabolic wastefulness. The best illustrations are derived from the domain of animal husbandry, in which the fattening of the individual has become an art rather than an accident. It is known that the gain in live weight secured per unit of feed consumed diminishes as the fattening progresses. Is this, too, due to some perversion of metabolism in obesity? Armsby and Fries,[5] who have made an accurate investigation of this problem, deny that it is due to the supposed lower utilization of food by the fattened as compared with the thin individual. They found the corresponding rations digested equally well by the fattened and unfattened animal. These investigators at the Institute of Animal Nutrition of the Pennsylvania State College have also approached the question whether, with the progress of the fattening, the body cells become less efficient in the manufacture of fat from other nutrients, or whether the cells of the adipose tissue, as they become loaded with fat, offer, as it were, an increasing resistance to the deposition of added fat, to overcome which requires an expenditure of energy.

The answer to these inquiries is of interest not only to the cattle feeder who must count the cost of "finishing" his product for the market, but likewise to students of human nutrition. They raise the question of unique nutritive needs in the case of the obese. Carefully made observations on fattened cattle[5] indicate clearly that the net energy values of the ration and the percentages of metabolizable energy which were available for gain were only slightly less in the fattened than in the unfattened condition in the same individual. However, after extensive fattening, the maintenance requirement was increased as much as 36 per cent. in one case—an increment far larger than the increase in size or body surface would account for. Arsmby and Fries attribute the lower economic

3. Friedenthal, H.: Centralbl. f. Physiol., 1909, **23**, 437.
4. Von Fürth, O.: Chemistry of Metabolism, translated by A. J. Smith, Philadelphia, 1916, p. 394.
5. Armsby, H. P., and Fries, J. A.: Influence of the Degree of Fatness of Cattle upon their Utilization of Feed, Jour. Agric. Research, 1917, **11**, 451.

efficiency of the fattened animal to this higher maintenance requirement of food, rather than to any noteworthy difference in the utilization of the surplus of feed over the maintenance requirement. If the same manifestation of uneconomic use of food in the obese applies to man, there is an added force to the Food Administration's advice to our corpulent citizens to burn their own fat and thereby save fuel for the nation's fighters.

THE PEORIA OUTBREAK

It is disappointing to find that widespread epidemics due to a sewage-contaminated water supply still occur with relative frequency in large and civilized communities. Peoria is the third large Illinois city to suffer from a visitation of this sort within a few years, similar outbreaks having occurred at Rockford and Quincy a few years ago. In the last named cities the outbreak was clearly traced to the water supply, and the circumstances leading up to the occurrence were fully investigated. In both Rockford and Quincy the outbreak of gastro-intestinal disease was followed by one of typhoid fever. It is yet too early to learn whether Peoria will be afflicted in like manner, but the health authorities in that city must be awaiting developments with anxiety. In the majority of such outbreaks everywhere typhoid with its relatively long period of incubation has been a sequel to the more sudden and more extensive as well as more transient epidemic of gastro-enteritis.

Owing to the fact that no complete investigation and report on the Peoria situation have yet been made by the local authorities, we are not in a position to state exactly how the water contamination occurred. The fact that the water company is privately owned may perhaps explain in part the difficulties of carrying through a complete investigation. It can hardly be believed, however, that the Peoria authorities will allow the matter to rest here, particularly with the shadow of a possible typhoid epidemic hanging over them. The citizens of Peoria will doubtless demand that a searching inquiry be made, and that so far as practicable the conditions at the water works and the circumstances preceding the outbreak be brought to light.

The state of Illinois has for some years maintained an expert staff and excellent facilities for water examination in connection with the State Water Survey, with headquarters at the University of Illinois. There is also a well organized Illinois Water Supply Association, with membership composed of the various water works superintendents and other officials. It is somewhat singular that three of the most serious outbreaks of water-borne disease that have occurred in this country in the last few years should have occurred in this state. Both the Rockford and the Quincy epidemics were due to something approaching mismanagement of the water supply systems, and from the information furnished in the report of our special investigator published last week it may be conjectured that the Peoria outbreak may have been due to some form of carelessness or negligence on the part of the responsible authorities.

It is somewhat surprising that in a city the size of Peoria an efficient municipal health organization should not be provided. We understand that the Peoria health officer is not a full-time appointee, and that no systematic oversight of the bacterial condition of the water supply has been practiced. In Peoria as in many other cities there have doubtless been some unsettling changes in the office of the health commissioner, as a result of the shifting of personnel necessitated by the war; but the health of a thriving city is too important to be jeopardized in this way except in dire need. There seems little doubt that Peoria, like many other cities of its class, is mistaken in supposing that the health work of the city can be properly administered with part-time service and with insufficient staff and appropriations. There is a kind of efficiency just as necessary at this time in civil life as in the military camps. If Peoria reaps an aftermath of typhoid with its roll of deaths, the appeal to the imagination of the average citizen may be greater than if no further development takes place; but the outbreak, as we now know about it, must be sufficiently impressive to the responsible authorities. In public health affairs, eternal vigilance is the price of safety.

Current Comment

REGULATIONS ON PHYSICAL EXAMINATIONS FOR SELECTIVE SERVICE

After THE JOURNAL had gone to press last week and some 18,000 copies were printed, a telegram containing important changes in the regulations covering the physical examination of registrants for selective service was received from the Provost Marshal-General, requesting publication in the current issue. In accordance with this request the presses were stopped and the new modifications immediately inserted. This will explain why the matter was printed in some copies of THE JOURNAL and not in others. In brief, the changes grant to the local boards certain powers previously delegated to the medical advisory boards. They are incorporated in the three following statements:

Local Boards may accept registrants for special and limited military service but must refer all doubtful and remediable cases to the Medical Advisory Boards.

Local Boards can accept or reject for general military service and may also accept for special or limited military service but must refer all doubtful or remediable cases not falling within said three classes to the Medical Advisory Board.

Local Boards may accept a registrant as physically qualified for special or limited military service in a named occupation or capacity without reference to the Medical Advisory Board.

The effect of these changes is to remove some of the work from the medical advisory boards. As The Journal has previously stated, the effect of the creation of the medical advisory boards and the regulations concerning physical examination was to throw the large majority of examinations of registrants, in fact all except unconditionally accepted or rejected registrants, on these boards. The new regulations modify the rules on unconditional acceptance or rejection, and permit the local boards to accept registrants for named occupations or for special or limited military service. Even under these new conditions, the medical advisory boards have a large amount of work and an especially important responsibility.

THE COLD BATH AND BLOOD FLOW

Many of the methods of physical therapy at present in use are still based on admittedly empiric indications. The responses obtained or assumed to result from one procedure or another, such as applications of heat or cold in specific generalized or localized ways, frequently express themselves in the guise of vague feelings of well-being. The result is that descriptions of such effects are couched in most general terms. One hears, for example, that a cold spray or shower "affords excellent gymnastics for the skin," or that cool baths are hygienically wholesome because they provoke a "healthful reaction," sometimes spoken of as "skin training." This, however, is not the language of physiology. An instance of the sort of investigation that is still urgently needed to give a tangible scientific basis to much of modern hydrotherapy is furnished by recent hemodynamic studies of Burton-Opitz.[1] He has accurately measured the blood flow in subjects during immersion in cold water. The attempt was made to ascertain those tonic reactions which one ordinarily experiences in baths of from 32 to 34 C. (89.6 to 93.2 F.). A comparison of the values before and after the immersion showed very clearly that the cool water exerts a favorable influence on the blood flow, and that the increased flow is associated with a well marked rise in the systemic pressure and a slight acceleration of the respiratory movements.

THE OXYGEN DEFICIT IN THE VENOUS BLOOD

Arterial blood, as it is about to leave the heart to carry its essential components for the use of the far away tissues, is nearly saturated with oxygen. In the progress of the fluid laden with this indispensable gas through the body, the oxygen is gradually given up in successive portions. Finally the circulating medium returns to the right heart as venous blood more or less depleted in oxygen. In asphyxia, when no adequate provision is available for replenishing this loss, the last traces of transported oxygen may disappear from the blood; but under normal circumstances of life, the blood corpuscles never stay long enough in the proximity of the tissues to lose their entire store of oxygen. The magnitude of the removal of the latter has long been known through the investigations of various physiologists. Recently Lundsgaard,[1] using the improved technic developed in the Hospital of the Rockefeller Institute for Medical Research, has completed new measurements of the "oxygen unsaturation" of the blood, as ascertained from a determination of the oxygen-carrying capacity and the actual oxygen content of the venous blood in a group of normal persons. The average oxygen-combining power approximates 20 volumes per cent.; the oxygen content of the normal subject resting as completely as possible ranged from about 10 to 17 volumes per cent. The difference between the oxygen capacity and the content of the gas actually present in the blood that has supplied the tissues thus ranges in health around an average of 6 per cent. In other words, little more than one quarter of the oxygen is withdrawn for metabolic purposes in each transit of the blood through the circulation. It will be interesting to see what renewed study in this field discloses when it is applied to the problems of the patient in the clinic.

OLIVE OIL NOT ESSENTIAL

Physicians are receiving letters from a company whose business it is to import olive oil. With the letter is a card, which physicians are urged to sign, reading:

> "From both a medicinal, as well as a food standpoint, it is important that we have available, at all times, a supply of pure imported olive oil. You are authorized, therefore, to use this card to support your application to the State Department and War Trade Board, Washington, D. C., in an effort to secure the importation of sufficient olive oil to take care of consumers during 1918."

A postscript to the letter offers to send the recipient a complimentary copy of a book. One physician who has received this combination request and offer questions whether the methods of the company are justifiable. To him it appears to be "a very shrewd way of getting a great endorsement from physicians under a camouflage of war necessity." Most physicians, we believe, will view it in the same light. Leaving aside altogether the inference that the complimentary book is a *quid pro quo* for the endorsement, the statements both in the letter and on the card fail to convince. It is *not* important either from a medicinal or from a food standpoint that we have available a supply of imported olive oil. It is not even important that we have a supply of domestic olive oil. Freely admitting the food value of good olive oil, whether imported or domestic, it is no greater than some other vegetable oils; and the same applies to any alleged medicinal qualities. Even if olive oil had all the superlative virtues assigned to it by those who are in the business of selling it, it would still be true that the domestic olive oil is the equal of the imported olive oil. With ship tonnage as vital a problem as it is today one can think of many products that can be put in ships' holds that are of greater importance and value than imported olive oil.

1. Burton-Opitz, R.: Haemodynamical Studies, Am. Jour. Physiol., 1917, **45**, 62.

1. Lundsgaard, C.: Studies of Oxygen in the Venous Blood, I, Technique and Results on Normal Individuals, Jour. Biol. Chem., 1918, **33**, 133.

Medical Mobilization and the War

THE ASSOCIATION'S WAR SERVICE

"It is a matter of tremendous importance to the nation, as it is to the medical profession, that systems be devised by which the individuals who compose it will be so evaluated that some one in each state, some one for the whole nation, may be able to tell Congress the exact value of the medical man power of the country at any moment.

This should have been done long ago by the American Medical Association, through its splendid facilities for organization, but it has so utterly failed to realize its opportunities in this respect that it is barely consulted in Washington, and the duties and responsibilities it should have proudly and efficiently borne have been undertaken by the Medical Section of the Council of National Defense."

This is quoted from an editorial in a journal owned and controlled by one of the constituent state associations of the AMERICAN MEDICAL ASSOCIATION. The fact that this charge appeared in a state journal prompted the chairman of the Board of Trustees and the secretary of the American Medical Association, independently, to write to the Surgeon-General asking if there is any basis in fact or any justice or truth in the charge.

The following are the replies of the Surgeon-General:

WAR DEPARTMENT,
OFFICE OF THE SURGEON-GENERAL
WASHINGTON

Thomas McDavitt, M.D., FEBRUARY, 22, 1918.
Chairman, Board of Trustees,
American Medical Association,
St. Paul, Minn.

Dear Doctor McDavitt:—In answer to your letter dated Feb. 14, 1917, I am very glad to acknowledge the great service which the American Medical Association has given, with and without solicitation, to me personally and to the Office of the Surgeon-General, in the solution of the important problems of preparedness for war and of the medical and surgical care of our boys in training camp and field by the Medical Department of the Army.

Through the officers, THE JOURNAL and educational propaganda distributed by the American Medical Association, we have secured thousands of officers of the Medical Reserve Corps. The Office of the Surgeon-General and the Medical Department of the Army still need your aid and support.

Permit me to thank you and through you the other trustees and officers of the Association for the valuable help already rendered and for the acceptable offer of a continued life service.

Very truly yours,
(Signed) W. C. GORGAS,
Surgeon-General, U. S. Army.

WAR DEPARTMENT,
OFFICE OF THE SURGEON-GENERAL
WASHINGTON

Dr. Alex. R. Craig, Secretary, FEBRUARY, 22, 1918.
American Medical Association,
535 North Dearborn St.,
Chicago, Illinois.

Dear Doctor Craig:—It gratifies and affords me pleasure to acknowledge the great services rendered by the American Medical Association, to me personally and to the Office of the Surgeon-General, in organizing the Medical Department of the Army for the efficient care of our soldiers in training camp and field.

Since April, 1917, the Board of Trustees, the officers at the Chicago headquarters, THE JOURNAL and all the machinery of the American Medical Association have been important and distinctive factors through which many thousands of physicians have been influenced to apply for commissions in the Medical Reserve Corps; medical officers have received valuable instruction by means of special articles printed in THE JOURNAL and also through literature distributed in pamphlet form from the office; and in other ways too great to enumerate here.

The spirit of service expressed by the officers and members of the American Medical Association in so many helpful ways, in the work of preparation for war and for actual surgical and medical care of our soldiers in war, evidences a patriotism and devotion to country which is a credit to the American medical profession.

I accept and thank you and through you the other officers of the Association for the offer to continue the same services of the Association to the Medical Department of the Army as long as may be.

Very truly yours,
(Signed) W. C. GORGAS.
Surgeon-General, U. S. Army.

Manual of Instructions for Medical Advisory Boards

The manual, just issued by the Provost-Marshal-General's Office, represents the report of the board of specialists, including military surgeons, appointed by the Surgeon-General. Incorporated in the manual are also the regulations governing physical examinations issued to local boards. The manual constitutes an excellent guide to physical diagnosis. A number of copies are available for general distribution by THE JOURNAL, and will be sent gratis to physicians on receipt of 3 cents in stamps to cover cost of mailing.

Personnel of the Medical Department

For the week ending March 1, the personnel of the Medical Department of the Army included:

MEDICAL CORPS: 751, including 1 major-general, 61 colonels, 101 lieutenant-colonels, 195 bajors, 2 captains and 391 lieutenants.

MEDICAL RESERVE CORPS: 17,430, including 1,055 majors, 3,974 captains and 12,401 lieutenants. On active duty: 13,909, including 679 majors, 3,928 captains and 9,302 lieutenants.

MEDICAL CORPS, NATIONAL GUARD: 1,202 including 7 lieutenant-colonels, 259 majors, 146 captains and 790 lieutenants.

MEDICAL CORPS, NATIONAL ARMY: 61 including 4 brigadier-generals, 15 colonels, 42 lieutenant-colonels and 2 majors.

The DENTAL CORPS, 211; DENTAL RESERVE CORPS, 5,048, of whom 1,296 are on active duty; DENTAL CORPS, N. G., 266; VETERINARY CORPS, 24; VETERINARY RESERVE CORPS, 1,398, of whom 695 are on active duty; VETERINARY CORPS N. G., 56; VETERINARY CORPS N. A., 301; SANITARY CORPS, 903, and AMBULANCE SERVICE, 136 constitute the remainder of the commissioned personnel.

New Bulletin on War Surgery and Medicine

The Surgeon-General has authorized the issue of a monthly bulletin to be devoted to abstracts of war medical literature. The purpose of the publication is announced as being threefold: 1. To furnish the medical personnel abstracts of original papers of importance. The ordinary military routine may not leave time for the systematic reading of current literature. 2. To equip the various officers detailed as medical instructors with necessary information in short compass. 3. To furnish a medium for the prompt publication of reports which might otherwise not gain circulation but which have special educational value.

The first issue, that for March, is devoted wholly to surgery, although it is stated that subsequent issues will be allotted to internal medicine, laboratory medicine and the surgical specialties in proportion. The first number contains an excellent article by Major George de Tarnowsky, M. R. C., concerning surgery of the zone of the advance as observed in the French Service de Santé; a series of abstracts on gas gangrene and on trench foot and a final article consisting of the conclusions of the Inter-Allied Surgical Conference held in Paris during March and May, 1917, on the general principles guiding the treatment of the wounds of war.

Dedication of Auditorium at Fort Oglethorpe

On March 11, special exercises will be held at Fort Oglethorpe in connection with the opening of the Warden McLean Medical Auditorium, constructed at Camp Greenleaf in Chickamauga Park, the Medical Officers' Training Camp. For some time the training of medical officers has been centralized at this training camp so that now there are over 3,000 mdical officers in training at Camp Greenleaf. The special auditorium was built for lecture purposes, and divisions of

special training in various subjects are being established at the camp. It is likely that with the continuation of a centralization at Camp Greenleaf the school at Fort Riley will be discontinued as were those at Fort Benjamin Harrison and Camp Dodge, Iowa.

The exercises at Camp Greenleaf will be in charge of an auditorium committee consisting of Lieut.-Col. Roger Brooke, M. C.; Majors Mahlon Ashford, M. C.; H. L. K. Shaw, M. R. C.; N. M. Owensby, M. R. C. The following is the program:

10.00 a.m.—Presentation of Auditorium at the Camp
2.00 p.m.—Review at Fort Oglethorpe
5.00-7.00 p.m.—Buffet Supper at Hostess' House
7.30 p.m.—Entertainment at Big "Y," Ringgold and Lafayette Rds.

Hospital News

Ten hotels at Vichy, France, have been placed at the disposal of the American forces. Five hospitals are to be installed in the hotel, with accommodations for 7,000 patients.

It is announced that a United States Army depot is to be established at Ellis Island, New York Harbor. This will later be used as a receiving hospital for German prisoners and sick and wounded American soldiers returned from France.

The Hotel Cape May, Cape May, N. J., has been leased by the government for use as a hospital at the rental of $99,000. The building has 600 rooms.

The American Field Hospital at a western front was apparently used as a target in a German air raid, February 16. Fortunately, none of the patients, nurses, officers or men were injured.

New Ocean House at Swampscott, Mass., with the annex and several cottages has been taken over by the government and will be converted into a reconstruction hospital. The buildings at present accommodate more than 500 patients.

Bill for Navy Nurse Corps

Under date of February 1, Representative Hicks of New York introduced a bill to prescribe the personnel of the Navy Nurse Corps, method of appointment, etc. The bill provides, in brief, that the Nurse Corps (female) of the Medical Department of the Navy shall hereafter be known as the Navy Nurse Corps, and shall consist of one superintendent and as many chief nurses and research nurses as may be needed. The superintendent shall be appointed by the Secretary of the Navy and all other members by the Surgeon-General, by and with the approval of the Secretary of the Navy. The chief nurses are to be appointed by promotion from the other members. The annual rate of pay to be: for the superintendent, $2,400; for the nurses, $840, with increases for each three-year period; and for the chief nurses, $360, in addition to the pay of a nurse. All members shall receive $10 per month additional when serving outside the United States. There are also provisions for retirement pay, leave of absence, transportation and subsistence, and a final provision repealing previous regulations covering these points.

Extracantonment Health Zone Regulations

In carrying out the cooperative plan of the United States Public Health Service, the Medical Corps of the U. S. Army and state and local health authorities in extracantonment zones for protecting the health of the troops in camps and of the inhabitants of such zones, new regulations have been adopted in a number of zones (*Public Health Reports*, Feb. 15, 1918). Among these are rules adopted Jan. 11, 1918, by the health board of Des Moines, in the zone of Camp Dodge, for the control of venereal diseases. Regulations were also prescribed in regard to communicable diseases, and the city health officer was relieved by ordinance of all other duties, and a number of new officers, inspectors, clerks and visiting nurses provided to assist in carrying out the regulations. At Richmond, Va., in the zone of Camp Lee by regulation of the health department of Jan. 16, 1918, druggists and other retailers of drugs and remedies advertised to relieve persons suffering from contagious diseases are required to procure receipts from such purchasers, with name and address. The dealers are required to report to the health department monthly. Another regulation controls the handling of live poultry and other food products, and still another gives a revised list of reportable communicable diseases, with a special list of diseases which are to be reported as soon as their presence is suspected. The U. S. Public Health Service in cooperation with the commanding officer of the United States troops at Fort Oglethorpe, Ga., has issued regulations for the extracantonment zone covering barber shops, billiard halls, manicuring parlors, hotels, restaurants and eating houses.

Medical Officers Discharged from the Service

Rather sensational statements have appeared in some of the newspapers regarding the number discharged from the Medical Reserve Corps and the reasons therefor. Certain newspapers seem to have assumed that all who have been discharged were inefficient, and numerous editorial comments have been based on this assumption. Briefly, the facts are:

Up to March 1, including those connected with the National Guard, 1,078 medical officers had been honorably discharged. If this number had been dismissed because of inaptitude or incompetency, it would be a serious matter. The following is the official tabulation as of March 1, 1918:

DISCHARGES IN THE MEDICAL RESERVE CORPS

Causes	
Physical disability	369
Inaptitude	150
Other branches of the service	297
Domestic troubles	26
Resignations	88
Needed by the community	32
Deaths	28
Total	990

DISCHARGES IN THE MEDICAL CORPS, NATIONAL GUARD

Causes	
Physical disability	25
Inaptitude	10
Other branches of the service	15
Domestic troubles	0
Resignations	34
Needed by the community	1
Deaths	3
Total	88

It will be noted that, including the two corps, 312 are listed under the term "other branches of the service." This refers to those who have been transferred to the regular Medical Corps, as well as to those who have gone outside of the medical department; that is, those who have taken appointments in the line. Deducting these 312 men who have not actually been discharged from the Army and 31 who have died, leaves 735 who have been honorably discharged from the army for all causes. One hundred and twenty-two have resigned; 33 "needed by the community"; 26 were compelled to give up their work on account of domestic complications—which in the majority of instances means family illness, death, etc.; 394 were dismissed for physical disability and 160 for inaptitude. It is quite possible that some of those who have been dismissed for "physical disability" were inefficient in their work but certainly only a small percentage.

Prevention of Smallpox Among Selected Men

The office of the Provost-Marshal-General has issued the following statement of precautions against introduction of epidemic diseases into cantonments:

1. At this season of the year there is a maximum prevalence of communicable diseases, and there now is an epidemic of mild smallpox in numerous localities in the central and southern states often unrecognized and not under medical care.

2. To modify and as nearly as may be to prevent the introduction of communicable epidemic diseases into the cantonments through the mobilization of selected men coming from districts in which communicable epidemic diseases exist, the following precautions should be taken:

(*a*) Where smallpox exists in epidemic form, all selected men within the current quota who are within the district in which the epidemic exists should be immediately vaccinated by the state or local health authorities if, under the local law, such vaccination is compulsory, and if not compulsory, then if such selected men consent to such vaccination.

(*b*) Where typhoid or paratyphoid fever exists in epidemic form, all selected men within the current quota in the district in which the epidemic prevails should be immediately and properly inoculated with standardized triple typhoid vaccine by the state or local health authorities where such inoculation is compulsory, and where not compulsory, then if the selected men consent to the same.

(*c*) Where measles, cerebrospinal meningitis, scarlet fever, virulent streptococcus sore throat, and diphtheria exist in epidemic form, as evidenced by authentic reports from state or municipal or other local health departments, the adjutant-general of the state should make an immediate report of the conditions to the division surgeon at the camp to which the territory in which the epidemic exists is contributory, asking for advice as to whether or not the mobilization of selected men from such districts should be delayed during the prevalence of the epidemic, and also immediately report to this office all such facts as well as any advice received from the camps, and await instructions from this office.

(*d*) The individual in charge of a squad of selected men en route to a mobilization camp should be furnished by the local board with written information for the division surgeon, of the existence of communicable diseases (especially cerebrospinal meningitis and measles) in the district from which the selected men come, to the end that a possible disease carrier may be placed in quarantine.

E. H. CROWDER, Provost-Marshal-General,
By FRANK BILLINGS, Major, M. R. C.

A MEDICAL OFFICER'S EXPERIENCE IN THE WAR ZONE

The following paragraphs are excerpts from letters written by Major George de Tarnowsky, Chicago, now attached to the American Expeditionary Forces in France, to friends at home:

"I have had six wonderful trips so far, visiting every part of the devastated district, talking to the people, walking through cities and villages where only the streets remain. I have climbed down into marvelous grottoes, caverns and dugouts made by the French and Germans, studying the methods of picking up the wounded, carrying them to these underground rooms for first aid and then transporting them by auto, by rail, by boat, etc., to the various front hospitals. . . .

ATROCITIES

"I have visited over a hundred towns and villages, always in a military auto, with a guide to get me in and out of the maze of trenches. The systematic devastation of the country is one of the things one cannot forgive the Boches. Acres and acres of fruit trees chopped down, the trees lying where they fell, proving that the Boches did not need the wood but only sought the annihilation of a race. All girls of over 14 years have been taken away. One poor woman with seven children had her two daughters 14 and 16 years old taken away by the Boches. Her husband is a prisoner in Germany, and she was severely wounded in the abdomen by a shell. Her farmhouse is half demolished, yet there she was, making a brave fight with her five young ones around her. We sent her bread, potatoes and clothes, and have given her two goats whose milk keeps the youngest three children alive. One dear old peasant woman kissed my hand and said—'We thank Americans for having come to help us.' Her two daughters, both married, and three daughters disappeared in Germany. . . .

PRUSSIAN OFFICERS

"The only time I feel like smiling on these trips is when I come across German prisoners rebuilding the villages and roads they have destroyed. France is wisely making them, in a small way, undo the wrong they have done. Cemeteries have been systematically torn up, all the metal from the coffins removed, and the skeletons thrown around on the ground. Everywhere one sees the arrogance and selfishness of the Prussian officer. They lived luxuriously in bomb-proof houses or dugouts, with thick iron and cement walls and roof, while they locked up their poor soldiers in mitralleuse cages so that they could not escape from shell fire. Always the best of everything for the officers and the worst of everything for their men; such a contrast to the British and French system in which the officer thinks of his men first and of himself last.

"I am constantly amazed at the beautiful democratic spirit which prevails in the French army. Officers and men fraternize openly, and yet the discipline is excellent. The French soldier goes about his duties because he knows it is for the good of the service and of the country—not because he fears to be punished if he doesn't perform his duty. . . .

FRENCH SERVICE

"I have visited many hospitals, including the wonderful one hewn out of the rocks under the famous citadel. Some of the trips were extremely dangerous and we had to take shelter under rocks or crouch down in the bottom of trenches, while bullets and shells whizzed over our heads. When I tell you that I crawled up to a listening post and saw a German soldier 15 yards off in another peep-hole, blinking at me, you can judge of the nearness to the enemy lines. In many places, owing to swamps, etc., no trenches can be built, and we had to dash across the open, one by one, in order not to draw fire. As a rule, they don't waste ammunition on a single soldier, but they have a nasty way of changing their minds without notifying you in advance. The only really hard time I had was in passing from one army zone to another. No automobiles are allowed to pass, so we had to take a train. We were to have been met at the post of ——— by another auto, but the train was five hours late, and it was 11 o'clock at night before we reached the place. The auto had departed, leaving no instructions, so there we were, in a pitch dark town, under bombardment. We carried our suitcases with us and started out to find a hotel. All were packed full to overflowing, so, after an hour's futile search, we tramped back to the station to spend the night in the cold, dark waiting room. It was then after midnight, and we hadn't eaten a thing since noon. The officer on guard then suggested that we try a rest home for soldiers on furlough, called "Abri des permissionaire," and showed us the way there. We found two bags of straw and two blankets apiece, *the last ones.* Through the same kind officers the canteen or 'cooperative' was opened for us, and I bought a box of cheese, a piece of sausage, a hunk of bread and a bottle of wine, which we ate at 1 o'clock in the morning. Going to bed was simplicity itself, as we took off our shoes and put on an extra pair of woolen socks. Just as we had tucked ourselves in and our teeth began to chatter from contact with the cold and very damp blankets and straw, two belated French officers came in and looked at us in despair. That they did not curse us simply goes to prove that politeness is an essential part of every Frenchman's make-up. They spent the night trying to keep up a small fire in the one tiny stove which the wooden barrack contained. 'C'est la guerre.' In the morning, as all the water was frozen, we washed our faces with the corner of our handkerchief and reported at headquarters, after drinking a big bowl of hot café au lait.

"There we were given another automobile and sallied forth to complete the trip. Over the farthest north of the cities of that region we saw fourteen aeroplanes fighting over the town, a most thrilling sight. Two nights we slept in officers' barracks in a big hospital center with wonderful underground passages where the wounded were carried during the bombardments; another night I had a cot behind a little grocery store kept by two dear old peasant women. . . .

BRITISH SERVICE

"I spent ten days with the British Army visiting their aid posts and hospitals. During the whole ten days I merely took my coat and trousers off, sleeping with my steel helmet and gas mask ready for emergencies. Two nights I spent at headquarters in an old chauteau which was regularly aimed at by Boche avions; three nights I was in a wooden hut surrounded by sand bags 4 feet high; three nights I had a cubby hole in the cellar of a ruined house, in the center of Ypres, close by the famous cathedral and cloth hall. The last two nights were again spent in a hut, and here not only was the hut surrounded by sand bags, but an extra sand bag wall was built around the cot so that it gave you the effect of jumping into a huge bath tub. The cot—save the mark—consisted of a piece of chicken wire stretched over four boards; two blankets served as a mattress, and two blankets were for covers. At Ypres not only did I have rows of sand bags around, but tiers of sand bags over my head, supported by railway ties. The officers' mess is usually a barrack, or cellar, similarly protected. Yet, in the midst of warfare, with bombardment going on all the time, my servant—as the officers still call their orderlies—brought me hot water to shave with and a small canvas tub in which one could take a sectional bath. In spite of war, we 'dress' for dinner, dressing consisting in taking off one's belt and putting on shiny puttees and shoes. Afternoon tea was still a necessary function, and I was always brought back to mess in time for 5 o'clock toast, jam and buns.

"The officers were a splendid lot of fellows. They were formal the first day, melted in the evening, after chatting for several hours over whisky and soda, and the next morning hailed me as 'tarnasky,' a sure sign—with the British—that you are accepted as a gentleman and a good fellow. Michel had warned me about the sanctity of the morning shave, morning tub, change of shoes and puttees, and removal of

belt for supper. In France one puts on the belt for formal occasions. Of course, when I had casually remarked that my grandparents were English, the ice entirely disappeared, and I was at home with them for the rest of my mission.

THE WAR

"I shall describe one scene to give an idea of how hellish war can be. In order to reach some 'pill boxes,' as the British call the cement forts which they use as dressing stations (all of them built by the Germans when they occupied that sector) before the enemy could see us, I was awakened at half past 5 in the morning, given a cup of tea and toast and started at 6 with a captain M. C. as guide. We drove 4 miles in an auto and then got out. I gazed on an endless sea of mud and water. Roads were all destroyed by shell fire and there wasn't a square yard which was not represented by a shell hole as big as our bath room, full of thick, yellow-green water. The only means of advance was along 'duck board' paths 3 feet wide and placed on wooden posts 2 feet above the water. This path was almost 5 miles long, changing direction every 20 yards in order to avoid enfilading fire. One's head gets quite dizzy turning so often. There is not a tree left standing anywhere. Dead bodies of horses were everywhere; I idly counted twenty-four of them while walking less than 500 yards. Bodies of German and British lie here, there, everywhere. Now an arm, now a leg, now a head sticking out of the mud, or bobbing on a pool of water. They cannot be buried, because if one leaves the wooden path one sinks in the mud and is smothered to death in a few minutes. The stench of the atmosphere is something awful.

"We visited the dressing stations, where I met three of the American lieutenants who had crossed over with me on the *St. Louis* in September. All three looked as though they had lost considerable sleep, but they were sticking to their posts like heroes. They had been in that sector only one week, fresh from English hospitals where I had left them. All had bloodshot eyes from living in a dark room with acetylene lights and smoky fires, which they had to keep going in order to keep warm. The actual front lines consist of a series of shell holes connected up, in which one sits or crouches. Water has to be bailed or pumped out almost constantly. A large percentage of the men develop trench foot. I am sorry to say that my feet started to bother me again—worse than ever. However, they are now quite all right, as I have been walking around the hospital for a week with only slippers on and am treating my feet three times daily according to army methods. The men's feet often swell up to such an extent that they cannot get their shoes off, but have to have them cut to pieces.

"The return journey was quite exciting, as the Boche opened a barrage fire between the first 'pill box' and the path we were walking on, thus preventing us from returning to shelter. It was most fascinating to watch the shells falling steadily along our line for five minutes, then jumping forward another hundred yards and smashing things up, and again forward. That is why the paths are built zigzag so that shells can destroy only a small section at a time. At a junction point of these paths some "Tommies" came running at top speed. The leader shouted to me 'Run like hell, sir, they are going to "strafe" this point something horful.' Run like hell we did, and soon got out of range! The fascination of the scene prevented one from getting very scared, but I confess that my knees wobbled a little and that my heart was going pit-a-pat for a few minutes! That wasn't my first baptism of fire, but it was the most exciting. It also gave me an excellent idea of the wholesale wastage of shells in this war. At least 200 shells were fired at us, yet aside from the general splashing of mud, which kept my orderly busy the rest of the day, no one even received a scratch. The very next morning a shell crashed into the door of a pill box and the second one demolished the kitchen nearby. But again no one was hurt. Of course, one is not always so lucky; but it explains the peculiar war philosophy which one quickly acquires at the front. One may be hit at any moment of the day or night; but the chances are so immeasurably in one's favor that aside from taking every possible precaution, one pays no attention to the noises around.

"One of the most exciting scenes I witnessed near Ypres was a British 'sausage' or stationary observation balloon, the cable of which suddenly snapped. Up it shot in the air, the wind rapidly driving it toward the Boche lines. We saw the observer climb out of the basket with the parachute strapped to his shoulders and jump into space, the parachute unfolding and letting him slowly float down toward earth. What a shout of joy went up a few minutes later when the telephone rang to announce the Englishman's safe descent behind his own lines. Another day I counted twenty-six aeroplanes fighting in the air over Ypres; unfortunately, the Boche machines turned tail before any could be bagged.

"The army is splendid. I saw regiments from England, Scotland, Australia and Canada in different sectors; all were splendid looking fighting men, well trained and seasoned. American medical officers are to be found in many of the British hospitals doing noble work; I also met artillery and line officers studying methods of warfare—all eager to learn and all realizing that the American Army must learn this new type of warfare if it does not wish to waste its man power uselessly."

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

From Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ending Feb. 22, 1918

1. ANNUAL ADMISSION RATE PER 1,000 (disease only):
   - All Troops 1,506.7
   - National Guard Camps 1,192.5
   - National Army Camps 1,835.9
   - Regular Army 1,360.1
2. NONEFFECTIVE RATE PER 1,000 ON DAY OF REPORT:
   - All Troops 50.3
   - National Guard Camps 44.8
   - National Army Camps 58.6
   - Regular Army 45.3
3. CAMPS HAVING ADMISSION RATE FOR DISEASE HIGHER THAN AVERAGE: NATIONAL GUARD: Camps Shelby, Bowie, Doniphan, Beauregard, Wheeler, Sevier, Kearny and Logan. NATIONAL ARMY: Camps Travis, Pike, Funston, Dodge, Zachary Taylor, Jackson and Sherman.
4. CAMPS HAVING NONEFFECTIVE RATE HIGHER THAN AVERAGE: NATIONAL GUARD: Camps Bowie, Sevier, Beauregard, Shelby, Wheeler, Kearny and Doniphan. NATIONAL ARMY: Camps Funston, Travis, Pike, Jackson, Zachary Taylor, Dodge and Lee.
5. VENEREAL DISEASES: Annual admission rate per 1,000:
   - National Guard Camps 51.1
   - National Army Camps 62.9
   - Regular Army 81.3

   CAMPS HAVING RATE ABOVE AVERAGE: NATIONAL GUARD: Camps Bowie, Wheeler, Logan, Wadsworth and Shelby. NATIONAL ARMY: Camps Pike, Grant, Dix, Jackson, Lee, Lewis and Dodge.
6. NUMBER OF NEW CASES OF PNEUMONIA REPORTED 473
   Highest number in any one camp:
   - National Guard—Camp Cody 46
   - National Army—Camp Travis 46

7. NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING FEB. 22, 1918

Camps	Pneumonia	Dysentery	Malaria	Venereal	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Noneffective per 1000
Wadsworth	3	...	...	34	..	..	...	1	..	1	27.0
Hancock	8	...	...	14	..	..	19	2	8	0	27.0
McClellan	9	...	...	12	..	1	16	1	3	1	32.5
Sevier	9	...	1	20	..	..	7	2	3	8	69.9
Wheeler	17	1	4	43	..	..	1	..	..	4	52.2
Logan	11	...	1	59	..	..	48	..	1	2	35.3
Cody	46	...	...	14	..	..	2	2	4	13	37.7
Doniphan	2	...	1	15	..	..	...	1	..	5	45.5
Bowie	22	...	1	63	..	..	1	3	1	3	70.9
Sheridan	...	...	...	6	..	..	4	..	..	2	23.5
Shelby	3	...	...	26	..	..	1	2	1	3	56.3
Beauregard	6	...	...	17	..	..	2	..	..	8	61.2
Kearny	9	...	...	5	..	..	2	..	9	1	49.8
Devens	5	...	...	15	..	..	10	1	3	3	38.5
Upton	8	...	...	20	..	..	4	..	2	1	24.6
Dix	2	...	...	34	..	..	26	..	6	2	43.6
Meade	2	...	...	26	..	..	9	2	6	4	31.4
Lee	15	...	...	50	..	..	14	3	..	9	63.6
Jackson	10	...	1	31	..	..	6	9	2	6	86.2
Gordon	12	...	...	24	..	..	2	1	0	6	34.1
Sherman	4	...	...	34	..	..	61	..	16	2	52.9
Taylor	19	...	...	13	..	..	5	..	1	7	71.4
Custer	3	...	...	15	..	..	16	..	5	6	44.7
Grant	4	...	...	43	..	..	23	1	17	5	38.3
Pike	19	...	4	87	..	..	7	..	9	7	97.1
Dodge	9	...	...	27	..	..	19	..	18	9	68.7
Funston	4	...	...	7	..	..	1	2	7	2	104.6
Travis	46	...	...	22	..	..	4	2	1	7	98.0
Lewis	21	...	...	47	..	..	40	2	26	2	60.9
Regulars	132	4	5	585	1	2	519	25	129	66	45.3
National Guard in departments	1	...	...	22	..	..	58	..	..	0	
National Army in departments	12	...	1	148	..	..	31	..	32	2	

8. ANNUAL RATE PER 1,000 FOR SPECIAL DISEASES

	All Troops in U. S., Week Ending Feb. 22, 1918	Regulars in U. S., Week Ending Feb. 22, 1918	National Guard, All Camps, Week Ending Feb. 22, 1918	National Army, All Camps, Week Ending Feb. 22, 1918	Expeditionary Forces, Week Ending Feb. 14, 1918
Pneumonia	21.2	18.3	22.6	23.2	18.5
Dysentery	0.2	0.5	0.1	0.0	0.2
Malaria	0.8	0.7	1.2	0.6	0.2
Venereal	70.7	81.3	51.1	62.9	51.7
Paratyphoid	0.04	0.1	0.0	0.0	0.2
Typhoid	0.1	0.3	0.1	0.0	0.0
Measles	42.9	72.1	16.0	31.4	26.4
Meningitis	2.8	3.5	2.2	2.9	4.2
Scarlet fever	13.8	17.9	4.7	15.1	11.1

NEWS OF THE CANTONMENTS

Twenty-Eighth Division, Camp Hancock, Augusta, Ga.

FEB. 24, 1918.

Lieut.-Col. William E. Keller, M. C., from Scranton, Pa., has been relieved as division sanitary inspector and placed in charge of the One Hundred and Third Sanitary Train.

Surgeon-General Gorgas accompanied Secretary of War Baker on a recent inspection of Camp Hancock and the base hospital here.

Major Leonard D. Frescoln, training officer, gave a demonstration, March 1, at the chief of staff's office of methods used in training the Hospital Corps and men of the division in camp sanitation, hygiene and first aid work.

Thirty-Fourth Division, Camp Cody, Deming, N. M.

FEB. 24, 1918.

The general health of the camp has continued good. There have been no epidemics, and no accidents. At the base hospital a new sewerage system placed well below the surface, and frost proof, is approaching completion, permitting of the installation of bath tubs, hand basins, toilets, with running water both hot and cold, and shower baths for the use of patients and officers. A new system of steam heating for operating and examining rooms also is in course of installation.

The organization of the staff and personnel of the hospital has been perfected, and the efficiency of the institution thereby increased; for although the daily census shows a population of 837, yet additional ward space for which there is sufficient equipment is needed. An extension to the present quarters for medical officers is being constructed.

A pavilion for the treatment of psychiatric and nervous patients has been erected containing rooms for the segregation or isolation of disturbed patients, enclosed porches and sun parlors, and equipped with necessary toilet and bathing facilities. This class of patients always present by reason of their turbulent and boisterous conduct a difficult problem, and their management cannot be accomplished satisfactorily otherwise than in the manner which is being carried out.

The cases of pneumonia occurring at this camp which formerly showed a predominance of Type III of the disease of late have almost disappeared. The cases which have been received during the last month have been lobar cases of Type I.

MEDICAL OFFICERS STAGE BOXING SHOW

February 19, the medical officers of the Thirty-Fourth Division staged a boxing show accompanied by incidental musical numbers and recitations. The opening number of the program consisted of musical selections by Captains King and Sprague, and by Lieutenants McGavey, Ogden and Nauestod of the base hospital. This was followed by a popular solo and quartet by four enlisted men of Field Hospital Company No. 135. Then a boxing contest was staged by members of the One Hundred and Ninth Sanitary Train, followed by a selection by the orchestra of the sanitary train. Then came a boxing contest by Drs. McHugh and Robiliard of the One Hundred and Thirty-Sixth Infantry. Private John Brodie of Field Hospital Company No. 134 gave an imitation of Harry Lauder, and Private Al Schueman of Ambulance Company No. 135 gave a series of sleight of hand tricks. This was followed by the heavyweight contest of the evening between Dr. Embree of the Dental Corps and Dr. White of the Veterinary Corps, the animal department finally being successful over that of the teeth. The events concluded with a buffet luncheon.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

MARCH 4, 1918.

COURT MARTIAL

A general court martial was convened, March 5, to try the case of Major Milton Board, who is charged with being partly responsible for the death of Otho Murray, a private of Cumberland County, Ky. Col. William Guthrie of the Three Hundred and Ninth Engineers is president of the court, and Capt. Reilley of the Three Hundred and Thirty-Fifth Infantry is Major Board's counsel.

LAST DRAFT ARRIVALS

The details worked out for the handling of the last draft arrivals have proved highly successful and have resulted in a great saving of money and wear and tear on equipment. It is said this is the only camp which has adopted this plan of handling the new arrivals. Four medical boards examine the men immediately following their arrival, and uniforms and equipment are not issued until the recruit has been found fit and acceptable. Those failing to measure up are promptly discharged. The medical officers have encountered many amusing incidents. One man was very anxious for fear he would not be accepted, for he said, "I simply could not get along with my wife!" One thousand three hundred men were vaccinated and inoculated in short order.

The new selects will not be allowed to leave camp for two weeks. They will be kept in quarantine from the time they arrive. None will be given passes or furloughs in that time, but will have to remain in their quarters or training area for the prescribed period. This order has been put into effect in the One Hundred and Fifty-Ninth Depot Brigade since the men began reporting in, and is in keeping with the policy of the medical department of the division so new contagious and infectious diseases will not spread to other organizations.

Three distinct battalions of the division, including all officers and men, are under strict quarantine because of both mumps and measles.

NEW DIVISION SURGEON

Lieut.-Col. William A. Smart of the Regular Army Medical Corps arrived at Camp Zachary Taylor last week and took command of the medical department of the Eighty-Fourth Division, succeeding Lieut.-Col. John H. Allen, who was relieved from duty recently. Lieutenant-Colonel Allen remains on duty as camp surgeon, and as such is the ranking medical officer.

It is reported that ninety deaths have occurred at the base hospital since it was first opened.

SPECIAL MESS FOR SICK

Facilities have been provided for the messing of patients at regimental infirmaries whenever overcrowded conditions at the base hospital necessitate the keeping of patients in bed in the regimental infirmaries. Authority for such action has been given in an order from the adjutant-general, which was published for the information and guidance of all regimental separate battalion and independent unit commanders at the cantonment. The commanding generals of all divisions in the regular national armies and national guards are authorized under such conditions to appoint one acting cook for each infirmary. These acting cooks will be relieved as soon as the necessity for caring for the bed patients in the regimental infirmaries is terminated.

CONFERENCES ON SICK

Orders have been issued for a meeting every Thursday night at 7 o'clock for all the separate unit surgeons, and a conference will be held on all admissions and discharges.

Eighty-Sixth Division, Camp Grant, Rockford, Ill.

MARCH, 4, 1918.

ALIBI

The absence of a Camp Grant letter from this column for some time past has been as noticeable as has been the absence of the Camp Grant name from the weekly health reports issued by the Surgeon-General's Office (only those camps having noneffective rates above the average are honored by personal mention in that document). The reason for this hesitancy for appearing in print is the same in both cases: every medico here is working, following the example set by our division surgeon, Lieut.-Col. James M. Phalen, M. C.

DISEASE INCIDENCE

The brand of health exhibited in this cantonment is excellent. A few cases of measles are spotted here and there, but the main supply is becoming exhausted rapidly. Two different grades of measles have been appraised by the contagious service; the original, one and only genuine brand, introduced to the trade by the first increments of the draft, ran a very mild course; while the secondary grade, imported from the Columbus and Jefferson Barracks, was somewhat more severe in its character. Neither, however, was productive of sequelae of import. There is just about enough scarlet fever on hand to keep one physician (grade lieutenant or captain) fairly busy invoicing it and keeping the stock up to grade. A choice assortment of mumps, right, left and bilateral, flooded our shelves by their numbers (200 in all) for a while but the sanitary train, as usual, played the rôle of capricornus and took them off the books of the base hospital by opening a field hospital for the swell-jaws. One sample of smallpox is kept on hand, more as a curiosity than anything else. Epidemic meningitis is represented by four cases, a pitifully small stock that probably will not be renewed. As a result of these, the chief of the contagious service is being accused, on all sides, of obtaining money under false pretenses.

The remainder of the base hospital is less than comfortably full with the usual variety of diseases, medical, surgical and others. Throughout the camp, bronchitis seems to be the prevailing of the lesser diseases, although occasional endemics of influenza (so called) and streptococcus sore throat make their appearance.

PROMOTIONS

Promotions form the burning quesion of the day. Lieut.-Col. H. C. Michie, the C. O. of the base hospital, had his gold leaves silvered last week and Lieut.-Col. H. O. Scott, D. C., in charge of dentists, sprouted a brand new pair of silver leaves about a month ago. The field hospital section of the sanitary train is rejoicing in the promotion of their ex-director, Major S. J. Kopetzky, M. R. C., to the position of C. O. of the sanitary train. His former place is well filled by Major A. S. Clark, M. R. C., whose field hospital company is now commanded by Capt. J. E. Kellar, Jr., M. R. C.

NEW DRAFT

The arrival of 5,300 new draft men is keeping the surgeons of the divisional organizations fairly busy, although the experience gained by the examination of the original draft has simplified their problems. The necessary paper work, too, is lessened by the introduction of Form 1010, P. M. G. O., and there is the promise that it will be reduced still further.

Eighty-Ninth Division, Camp Funston, Kan.

Feb. 27, 1918.

The last contigent of men of the first draft are now coming into camp in small groups. The system of examining them at present is so far superior to the one we were obliged to use in October that it is worthy of mention.

The men are taken from the train directly to the examiner's building. Their qualification cards, with regard to fitness for various occupations, are then filled out. The men are then undressed, bathed, and started on their examinations. A series of wooden runways from one set of special examiners to another has been built, so that when the men are once started, they cannot possibly go any way but the right way. Thus all confusion is stopped.

The examiners are from the various boards of special examiners, thus avoiding a reexamination of all the command at a larter time by specialists, as was necessary in the first men drafted.

ORGANIZATION OF THE OFFICE OF THE SURGEON-GENERAL, U. S. ARMY

The following outline gives the personnel of the divisions of the Surgeon-General's Office as shown in the chart on the opposite page: The sections should be read in conjunction with the chart, reading from left to right.

Surgeon-General United States Army.—Major-General W. C. Gorgas; *Attaches:* Col. C. K. Morgan, British Army; Col. C. U. Dercle, French Army; Lieut.-Col. C. L. Furbush.

Chief Assistants to the Surgeon-General.—Brig.-Gen. Charles Richard; Brig.-Gen. Henry P. Birmingham; Col. James W. Van Dusen; Col. James R. Church.

Administration.—Major J. L. Gooch, Jr.; Lieuts. C. H. Wilson; S. P. Davies, L. J. Wyeth, Bernard Gumprecht.

Personnel.—Cols. Robert E. Noble, R. B. Miller, Lieut.-Col. Bert W. Caldwell; Majors Horace D. Arnold, M. R. C.; John S. Coulter, William H. Walsh, M. R. C.; Charles W. Ayres; Captains F. C. Waite, John H. Rose, M. R. C.; Robert F. Miller, John E. Horn; Lieuts. Henry L. Mann, L. B. Schutte.

Finance and Supply.—Cols. Carl R. Darnall; Edwin P. Wolfe; Majors E. R. Gentry, E. C. Jones, J. C. King, D. S. White, V. C.; W. T. Fishleigh; R. A. Wood; Capts. J. B. Copping, A. L. McMurtry, W. G. Stoner, J. C. Scheve, F. W. Lennox, D. M. MacClaire, J. G. Moon, V. C., N. A.; Lieuts. E. P. Turner, J. Van Putten, H. Kelley, E. Thompson, M. B. Bradley.

Sanitation.—Cols. Deane C. Howard, P. M. Ashburn, N. P. Chamberlain, J. W. White; Lieut.-Cols. F. W. Weed, V. C. Vaughan, W. D. Wrightson; Majors E. D. Kremers, James T. B. Bowles; Capts. H. N. Fuller, E. J. Tucker; Lieuts. E. E. Hume, T. R. Kendall. *Medical Section (Division of Sanitation) Sick and Wounded Records and Bureau of Information.*—Lieut.-Col. Albert G. Love; Capt. Robert H. Delafield.

Training Camps.—Col. Edward L. Munson.

Ambulance Service.—Brig.-Gen. Henry P. Birmingham; Capts. Luke C. Doyle, J. F. Newport.

Hospitals.—Col. Robert E. Noble; Lieut.-Cols. Charles F. Morse, L. J. Owen, H. H. Johnson, W. L. Hart, W. H. Smith; Majors Floyd Kramer, C. L. Brown; Louis B. Baldwin, M. R. C.; Capts. Clifford Perry; Lieut. Jens Christensen.

Special Hospitals and Physical Reconstruction.—Lieut.-Col. Edgar King; Majors James Bordley, M. R. C.; H. E. Mock, M. R. C.; R. H. Hutchings, M. R. C.; Paul B. Magnusen, M. R. C.; Casey A. Wood, M. R. C.; M. E. Hagerty, M. R. C.; H. B. Price, W. H. Henderson, M. Murray, A. C. Monahan; Capts. C. Burns Craig, M. R. C.; A. H. Samuels; Lieuts. William J. Ezickson, M. R. C.; W. A. Clark, M. R. C.; Charles Willing, John T. Boyd.

Surgery.—Col. W. H. Moncrief; Majors R. P. Sullivan, M. R. C.; A. B. Kanavel, M. R. C.; S. H. Smith, P. R. Turnure, M. R. C.; M. G. Seelig, M. R. C.; F. W. Bailey, M. R. C.; Lieuts. P. E. McNabb, T. P. Davison, H. I. Wilson.

Military Orthopedic Surgery.—Lieut.-Col. E. G. Brackett; Majors David Silver, M. R. C.; Henry R. Hayes, M. R. C.; Paul B. Magnusen, M. R. C.; A. S. Begg, M. R. C.; J. T. Rugh, M. R. C.; Kendall Emerson, M. R. C.; Capts. S. D. Breckenridge, M. R. C.; Horace Morison, John H. Morse, M. R. C.

Urology.—*Genito-Urinary Diseases:* Dr. G. W. Wende; Capt. Warren Walker, M. R. C. *Venereal Diseases:* Majors William F. Snow, M. R. C.; W. A. Sawyer, M. R. C.; Capts. A. N. Thompson, M. R. C.; A. B. Spingarn; Lieut. Sidney F. Morgan.

Head Surgery.—Col. T. C. Lyster; Lieut.-Col. W. H. Parker, M. C., N. A.; Majors N. M. Black, M. R. C.; H. P. Mosher, M. R. C.; V. P. Blair, M. R. C.; Allen Greenwood, M. R. C.; C. W. Richardson, M. R. C.; Charles Bagley, Jr., M. R. C.; R. H. Ivy, M. R. C.; Capt. H. H. Kerr, M. R. C.

Roentgenology.—Lieut.-Col. A. C. Christie.

General Medicine.—Col. George E. Bushnell. *Gastro-Intestinal.*—Major Seale Harris, M. R. C.

Tuberculosis.—Lieut.-Col. E. H. Bruns; Capt. W. H. Phares, S. C., N. A.

Cardiovascular.—Lieut.-Col. Warfield T. Longcope; Major A. E. Cohn, M. R. C.; Lieut. F. C. McLean, M. R. C.

Psychiatric.—Lieut.-Col. Pearce Bailey; Capt. Sanger Brown, 3d, M. R. C.; Lieut. Roy Haber.

Psychology.—Majors R. M. Yerkes, K. T. Waugh; Capt. C. S. Berry; Lieut. A. S. Otis.

Infectious Diseases and Laboratory.—Col. F. F. Russell; Majors H. J. Nichols, E. K. Dunham, M. R. C.; George Draper, M. R. C.; Capt. J. B. Murphy; Lieut. Harry A. Mankin.

Food and Nutrition.—Majors John R. Murlin; Caspar W. Miller, M. R. C.; Capt. W. P. Garrety; Lieut. F. M. Hildebrandt.

Gas Defense.—Brig.-Gen. Henry P. Birmingham; Lieut.-Col. Bradley Dewey; Major Arthur L. Besse; Capts. L. E. Cover, Frederick A. Dewey, Francis J. Eiseman, M. R. C.; Paul V. Hollenbeck, O. R. Johnson, William S. McKinney, James D. Pilcher, M. R. C.; James H. Walton; J. W. Wheeler; John O. Woodruff; Lieut. J. Stanley Babbitt; Joseph J. Barnett.

Army Medical School.—Brig.-Gen. William H. Arthur; Lieut.-Cols. E. R. Whitmore, E. B. Vedder, H. W. Jones; Major C. G. Snow.

Medical Museum and Library.—*Curator:* Col. W. O. Owen. *Librarian:* Col. C. C. McCulloch, Jr.

Medical and Surgical History of the War.—Majors F. H. Garrison, M. R. C.; John S. Fulton, M. R. C.; Lieut. C. T. Crudgington.

Dental Corps.—Lieut.-Cols. W. H. G. Logan, J. R. Ames, D. C.; Lieuts. J. F. Doyle, J. E. Schaefer.

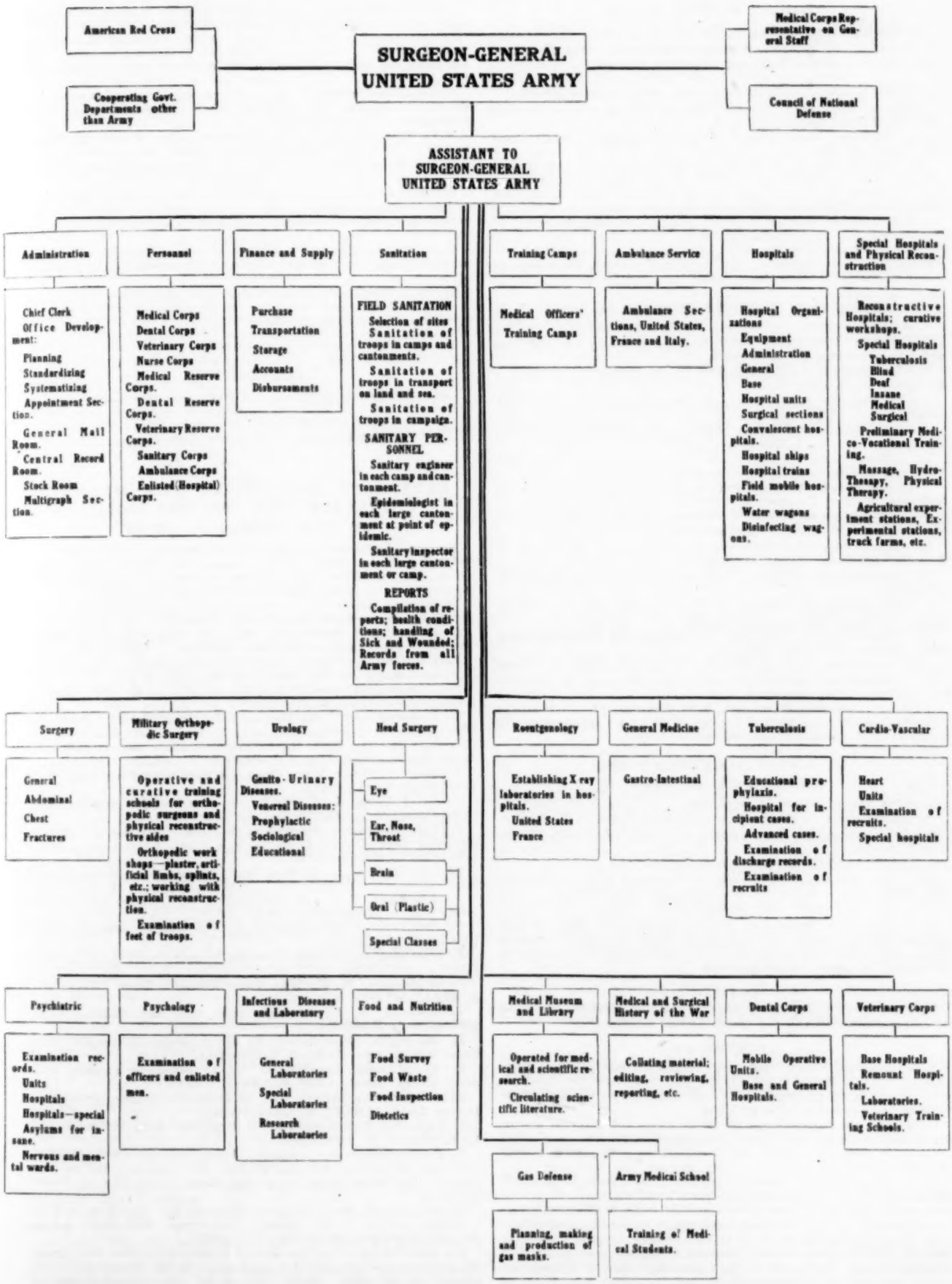
Veterinary Corps.—Col. R. B. Miller; Lieut.-Cols. C. J. Marshall, V. C., N. A.; C. F. Morse; Major R. S. Stanclift, V. C, N. A.; Capt. J. N. Hornbaker, V. C., N. A.

The following divisions are not indicated on the chart:

Army Nurse Corps.—Miss Dora E. Thompson; Miss A. W. Goodrich, Field Inspector of Nurses; Miss F. M. Durkin; Miss Edith A. Mury.

Active Vocational Board.—Dr. Royal Meeker, labor; Dr. Davis Edsall, medico-vocation; Mr. John E. Wilder, industrial and employment; Mr. Charles A. Stone, industrial and employment; Dr. Dean Lewis, general surgeon; Mr. Douglas C. McMurtrie.

Reconstructive Aides.—Miss Margurite Sanderson.



ORGANIZATION OF THE OFFICE OF THE SURGEON-GENERAL, UNITED STATES ARMY, 1918

National Research Council

Following is an outline of the organization of the division of medicine and related sciences in the department of science and research of the National Research Council:

I. DIVISION OF MEDICINE AND RELATED SCIENCES

Chairman, RICHARD M. PEARCE (National Research Council), 1023 16th St., N. W., Washington, D. C.

Vice Chairman, MAJOR ROBERT M. YERKES, Surgeon-General's Office, Washington, D. C.

Executive Committee.—H. D. DAKIN, New York City; C. B. DAVENPORT, *Cold Spring Harbor*, L. I., N. Y.; Major SIMON FLEXNER, Rockefeller Institute, New York City; W. H. HOWELL, School of Hygiene, Johns Hopkins University, Baltimore; Major CHARLES H. MAYO, Rochester, Minn.; Major WILLIAM J. MAYO, Surgeon-General's Office; Col. F. F. RUSSELL, U. S. Army; E. R. STITT, U. S. Navy; Major V. C. VAUGHAN, Surgeon-General's Office, Washington, D. C.; WILLIAM H. WELCH, School of Hygiene, Johns Hopkins University, Baltimore; the chairman and vice chairman, ex officio.

II. COMMITTEES INCLUDED IN MEDICAL DIVISION

1. *Anatomy Committee.*—Chairman, H. H. DONALDSON.

2. *Physiology Committee.*—Chairman, W. B. CANNON; vice chairman, and acting chairman, W. H. HOWELL.

(*a*) Subcommittee for Investigations on the Physiology of Shock.—Chairman, W. B. CANNON.

(*b*) Subcommittee on the Control of Hemorrhage.—Chairman, W. H. HOWELL.

(*c*) Subcommittee on Solutions adopted for Transfusion after Hemorrhage.—Chairman, L. J. HENDERSON.

(*d*) Subcommittee on Fatigue in Industrial Pursuits.—Chairman, FREDERICK S. LEE.

3. *Committee on Medicine and Hygiene.*—Chairman, VICTOR C. VAUGHAN.

(*a*) Subcommittee on Psychiatry.—Chairman, STEWART PATON.

4. *Psychology Committee.*—Chairman, ROBERT M. YERKES.

(*a*) Subcommittee on Methods for the Psychological Examination of Recruits.—Chairman, ROBERT M. YERKES.

(*b*) Subcommittee on Tests of Special Skill.—Chairman, EDWARD L. THORNDIKE.

(*c*) Subcommittee on Problems of Aviation, Including the Examination of Aviation Recruits.—Chairman, EDWARD L. THORNDIKE.

(*d*) Subcommittee on Incapacity, Reeducation and Vocational Training.—Chairman, SHEPHERD I. FRANZ.

(*e*) Subcommittee on Visual Problems.—Chairman, RAYMOND DODGE.

5. *Committee on Anthropology.*—Chairman, WILLIAM H. HOLMES; vice chairman, C. B. DAVENPORT.

6. *Zoology Committee.*—Chairman, E. G. CONKLIN.

(*a*) Subcommittee on Medical Zoology, with groups representing (1) entomology, (2) helminthology, (3) protozoology.

III. COOPERATING COMMITTEES

(Now existing in the Council)

1. *Chemistry.*—Chairman, M. T. BOGERT.

(*a*) Subcommittee on Biochemistry.—Chairman, FRANK P. UNDERHILL.

(*b*) Subcommittee on Pharmaceutical Chemistry.—Chairman, FREDERICK B. POWER.

2. *Food Committee.*—Chairman, A. E. TAYLOR.

3. *Advisory Committee on Toxicity of Preserved Foods.*—Chairman, J. J. ABEL.

IV. PURPOSE

To concentrate in Washington a comparatively small body of men representing the existing committees, and thus provide for effective cooperation in the rapid organization of medical research as an aid to the solution of urgent military problems.

V. FIELD

Medicine, surgery, hygiene, physiology, anatomy, psychology, psychiatry, physical anthropology, and closely related subjects.

VI. METHODS

1. To cooperate closely with the Surgeon-General of the Army (through Colonel Russell) and of the Navy (through Dr. Stitt) in determining urgent problems, and to enlist the aid of civilian laboratories in the solution of these problems.

2. To assist the Surgeon-Generals of the Army and Navy in procuring trained investigators to enter the respective services as contract surgeons to undertake special field investigations during short periods of time.

3. To send, if it is considered advisable, individuals to England, France and Italy to determine the urgent problems which should be taken up without loss of time in civilian laboratories in this country.

4. To invite, if it is considered necessary, commissions or individuals from England, France and Italy to this country to advise with the Medical Division of the National Research Council.

5. To maintain correspondence with prominent medical investigators in the American Expeditionary Forces and in civilian laboratories in France, England and Italy, and thus obtain reports of the important fields of research, the character of the work in progress, and the needs of the workers.

6. To establish relations with and, if agreeable to them, to cooperate with research organizations abroad, as (*a*) British Medical Research Committee, (*b*) the Research Society recently organized in France by medical officers of American, French and British forces, and (*c*) the Committee on Medical Research of the American Red Cross in France, etc.

7. To obtain reports of all medical research organizations in this country dealing with war problems, and of individuals engaged in the investigation of war problems.

8. To maintain a bureau for the dissemination of up-to-date bibliographies of all forms of medical research bearing on war problems.

9. (*a*) Prepare lists of individuals and laboratories equipped and ready to undertake research at short notice.

(*b*) Prepare lists of individuals who will hold themselves in readiness to move from laboratory to laboratory to work for shorter or longer periods on special or emergency problems or to augment existing laboratory staffs in a group of selected laboratories.

10. To hold conferences from time to time in Washington or other central city for discussion of important research problems and methods of attack.

11. To hold military medical meetings from time to time in the neighborhood of large cantonments, for the discussion of medical problems by military and civilian physicians.

CORRECTION

Under "Orders to Officers of the Medical Reserve Corps," issue of February 9: *To New York City* for intensive training in his specialty, Lieut. WINFRED OVERHOLSER, Wellesley Hills. The remainder of the order does not apply to Lieutenant Overholser.

ORDERS TO OFFICERS OF THE MEDICAL CORPS AND THE MEDICAL CORPS OF THE NATIONAL ARMY

To Camp Logan, and *Ellington Field*, Houston, Texas, *Love Field* and *Concentration Camp*, Dallas, Texas, *Call Field*, Wichita Falls, Texas, and *Rich Field*, Waco, Texas, for sanitary inspection and on completion *to his proper station*, Col. WILLIAM F. LEWIS.

To Newport News, Va., to make sanitary inspection and on completion *to his proper station*, Col. PERCY H. ASHBURN.

To Camp Custer, Battle Creek, Mich. for inspection and on completion *to his proper station*, Lieut.-Col. VICTOR C. VAUGHAN.

To Camp Zachary Taylor, Louisville, Ky., as division surgeon, from Newport News, Lieut.-Col. WILLIAM M. SMART.

To Walter Reed General Hospital for observation and treatment, Lieut.-Col. WILLIAM P. BANTA.

To Wilbur Wright Field, Dayton, Ohio, *Camp Sherman*, Chillicothe, Ohio, School for adjutants, *Ohio State University*, Columbus, Ohio, and *Columbus Barracks, Ohio*, for sanitary inspections and on completion *to his proper station*, Lieut.-Col. FRANK W. WEED.

To Camp McArthur, Waco, Texas, for duty, from Camp Lee, Major EDWARDS C. REGISTER.

To Camp Upton, L. I., N. Y., as camp sanitary inspector, from Camp Upton, Major ALVIN W. SCHOENLEBER.

To Camp Wadsworth, Spartanburg, S. C., for inspection and on completion *to Camp Greene*, Charlotte, N. C., from Camp Greene, Major CONDON C. McCORNACK.

To Cape May, N. J., for duty, from Newport News, Major JAMES S. FOX.

To Charleston, S. C., for investigation and on completion *to his proper station*, Major WILLIAM L. HART.

To Fort Riley as commanding officer, from Fort Leavenworth, Major FRANK H. CHILTON.

To Markleton, Pa., for duty, from the Surgeon-General's Office, Major JOHN C. SKINNER.

To Washington, D. C., from Camp Fremont, Major CLARENCE R. BELL.

To Asheville, N. C., for duty, from Fort Sam Houston, Lieut. EDWARD A. NOYES.

To Camp Dix, Wrightstown, N. J., as orthopedic surgeon, from Camp Meade, Lieut. KARL F. KOSMODEL.

To Camp Dodge, Des Moines, Ia., as orthopedic surgeon, from Army Medical School, Lieut. FRANK L. COLE.

To Camp Gordon, Atlanta, Ga., as orthopedic surgeon, from Camp Devens, Lieut. ALBERT W. GREENWELL.

To Camp Lee, Petersburg, Va., for duty, from Army Medical School, Lieut. EDWIN H. ROBERTS.

To Fort Oglethorpe for instruction, Lieut. FREDERICK T. HILL.

To New York City, Bellevue Hospital, for instruction and on completion *to his proper station*, from Camp Sevier, Lieut. BEN M. MERIWETHER.

To Philadelphia, Pa., University Hospital, for instruction and on completion *to his proper station*, from Camp Wadsworth, Lieuts. HENRY B. SMITH, WALTER C. TILDEN.

The following officers of the Medical Reserve Corps who have passed the preliminary examination for appointment in the Medical Corps will proceed to the Army Medical School for the required course of instruction: Lieuts. JOHN W. BILLINGSLEY, THOMAS S. McCLANAHAN.

The resignation of Lieut. ANDREW J. HARNESS is accepted.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Camp Greene, Charlotte, N. C., for duty, from Fort Moultrie, Lieut. RAYFORD HODGES, Woodville.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieuts. ROBBINS NETTLES, Belle Ellen; PERCY B. SKINNER, Belleville; SAMUEL C. TATUM, Center; WILLIAM E. BROUGHTON, Perdue Hill.

To Camp Sheridan, Montgomery, Ala., as orthopedic surgeon, from New York City, Lieut. DAVID RAMSEY, Pine Apple.

To Camp Sherman, Chillicothe, Ohio, for temporary duty, Lieut. GROVER E. MURPHY, Birmingham.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. RUFUS A. CULPEPPER, Cullman.

To Fort Oglethorpe, Provisional Base Hospital, Lieut. JAMES E. BLAYDES, Bessemer.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to Camp Logan*, Houston, Texas, base hospital, from Fort Oglethorpe, Lieut. CARL A. HARRIS, Bessemer.

To Newport News, Va., for duty, from Camp Gordon, Major EUGENE DU BOSE BONDURANT, Mobile.

To Pittsburgh, Pa., for instruction and on completion *to Camp Lee*, Petersburg, Va., base hospital, from Fort Oglethorpe, Lieut. JAMES H. BLUE, Bessemer; on completion *to Camp Sherman*, Chillicothe, Ohio, base hospital, from Fort Oglethorpe, Lieut. JAMES A. CAMPBELL, Atmore.

To St. Louis, Mo., Washington University, for instruction in urology and dermatology, Lieut. JOHN H. HAYS, Bessemer; from Fort Oglethorpe, Lieut. GILBERT A. RHODES, Troy.

To his home and honorably discharged from the Medical Reserve Corps, on account of physical disability existing prior to his entrance into the service, Lieut. JESSE F. BRYARS, Eliska.

Arizona

To Fort Riley for instruction, from Nogales, Ariz., Capt. CHARLES FORD, Nogales.

Arkansas

To Fort Omaha, Nebr., as gas instructor, from Camp Doniphan, Lieut. MATT F. HOUSTON, Clarendon.

To New York City, Bellevue Hospital, for instruction, and on completion *to Hoboken, N. J.*, for temporary duty, from Fort Oglethorpe, Lieut. ARTHUR F. HOGE, Fort Smith.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, from Fort Oglethorpe, Lieuts. RAPHAEL W. STEELE, Gentry; ARLEY D. CATHEY, Wilton.

To St. Louis, Mo., Washington University, for instruction in urology and dermatology, Lieut. MAURICE F. LAUTMAN, Hot Springs.

To his home and honorably discharged from the Medical Reserve Corps, on account of physical disability existing prior to his entrance into the service, Lieut. SHELBY A. TURNER, Haber Springs.

California

To Alcatraz, Calif., U. S. Disciplinary Barracks, for duty, Capt. DANIEL W. HUMFREVILLE, Los Angeles.

To Camp Cody, Deming, N. Mex., base hospital, Lieuts. HARVEY P. CHARLES, Berkeley; LLOYD R. MACE, Hollywood.

To Camp Kearny, Linda Vista, Calif., base hospital, Lieut. JOHN H. BREYER, Pasadena. For duty, Lieut. ALVA F. MAINE, Oakland.

To Camp Lewis, American Lake, Wash., as orthopedic surgeon, Capt. JOHN CARLING, Los Angeles.

To Camp Sheridan, Montgomery, Ala., for duty, from Fort Riley, Lieut. RAY A. CARTER, Los Angeles.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to Camp Taylor*, Louisville, Ky., base hospital, from Fort Riley, Lieut. JOHN C. IRWIN, Los Angeles.

To Fort Mason, Calif., for duty, Lieuts. HOMER C. SEAVER, Pomona; HOWARD W. FLEMING, San Francisco.

To Fort Riley, for instruction, Lieut. JOSEPH SAYLIN, San Gabriel.

To Los Angeles, Calif., for instruction, Lieut. JOSEPH J. KAVANAGH, Los Angeles.

To report to the Commanding General, Western Department, for assignment to duty, Capt. JAMES A. JACKSON, San Diego; from Fort Douglas, Capt. DAVID B. FIELDS, Weaverville. For assignment to duty, Lieut. LEO V. ROSENTHAL, Duarte.

To Rockefeller Institute for instruction, and on completion *to Walter Reed General Hospital*, for temporary duty, from Fort Oglethorpe, Major ALVIN POWELL, Oakland.

To St. Louis, Mo., Washington University, for instruction in urology and dermatology, from Fort Snelling, Capt. WALTER S. JOHNSON, San Francisco.

Colorado

To Camp Kearny, Linda Vista, Calif., base hospital, Capt. LEWIS M. VAN METER, Denver.

To Fort Logan, Colo., for duty, Lieut. NICHOLAS A. WOOD, Denver.

To Fort Riley for instruction, Capt. THOMAS A. STODDARD, Pueblo.

To New Haven, Conn., as commanding officer of the U. S. Army General Hospital, from Washington, D. C., Major ALEXIUS M. FORSTER, Colorado Springs. For duty, from Camp Gordon, Capt. WILL H. SWAN, Colorado Springs.

Connecticut

To Army Medical School, Washington, D. C., for instruction in orthopedic surgery, Lieut. HERMAN M. HURWITZ, Hartford; from Camp McClellan, Lieut. LAVERNE HOLMES, Manchester.

To Camp Devens, Ayer, Mass., as orthopedic surgeon, from Harvard Medical School, Lieut. HAROLD L. BURR, Middletown.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from Fort Oglethorpe, Lieut. EDWARD J. GODFREY, Waterbury.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. WILLIAM T. DRISCOLL, Norwich.

To Camp Upton, L. I., N. Y., as orthopedic surgeon, from Army Medical School, Lieut. WILLIAM F. COLLINS, New Haven.

To Fort Adams, R. I., for duty, Lieut. NAPOLEON B. LEWIS, Norwich.

To Fort Oglethorpe for instruction, Lieut. EDWARD B. ALLEN, South Manchester.

District of Columbia

To Fort Oglethorpe for instruction, from New York City, Lieut. RALPH H. DAVIS, Washington; from Philadelphia, Lieut. MARTIN H. SPELLMAN, Washington.

To Pittsburgh, Pa., for instruction, and on completion to Camp Devens, Ayer, Mass., base hospital, from Fort Oglethorpe, Lieut. CHARLES F. BOVE, Washington.

To Rockefeller Institute for instruction, from Fort Oglethorpe, Lieut. JAMES A. CAHILL, Jr., Washington.

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, from Army Medical School, Lieut. JOHN A. TALBOTT, Washington.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Capt. EDWIN M. HASBROUCK, Washington.

Florida

To Army Medical School, Washington, D. C., for instruction in orthopedic surgery, Capt. JOHN W. ALSOBROCK, Plant City.

To Cincinnati, Ohio, for instruction in orthopedic surgery, from Fort Oglethorpe, Capt. HENRY C. DOZIER, Ocala.

To Fort Oglethorpe for instruction, Lieut. LELAND F. CARLTON, Tampa.

To New Haven, Conn., U. S. Army General Hospital, from Fort Oglethorpe, Lieut. HARVEY O. BYRD, Tribly.

To New York City, Roosevelt Hospital, for instruction, and on completion *to Fort Myer, Va.*, for temporary duty, Lieut. JACOB J. SPENCER, St. Augustine.

To the inactive list of the Medical Reserve Corps, Lieut. WILLIAM E. SCHNAUSS, Jacksonville.

To their homes and honorably discharged, Lieut. GROVER G. HARDIE, Fort Pierce. On account of physical disability existing prior to entrance into the service, from Fort Oglethorpe, Lieut. HENDLEY F. HORNE, Jacksonville. On account of physical disability incident to the service, Lieut. THOMAS E. BLACKBURN, Swainsboro.

Georgia

To Camp Gordon, Atlanta, Ga., for temporary duty, from Camp Gordon, Lieut. MURDOCK S. SQUEN, Atlanta.

To Camp A. A. Humphries, Accotink, Va., for duty, from Fort Oglethorpe, Lieut. CLARENCE G. COX, Ellijay.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from Fort Oglethorpe, Lieut. EARL E. PATE, Macon.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. JESSE L. MEEKS, Atlanta.

To Fort Dade, Fla., for duty, Capt. DANIEL B. EDWARDS, Savannah.

To Fort Oglethorpe, Provisional Base Hospital, Capt. ROBERT H. STANLEY, Augusta. For instruction, from Philadelphia Lieut. KENNETH S. HUNT, Milner.

To Rockefeller Institute, N. Y., for instruction in laboratory work, and on completion *to Army Medical School*, for duty, Lieut. CLEO D. WILDER, Atlanta; from Camp Jackson, Lieut. CHARLES E. LAWRENCE, Atlanta.

To his home and honorably discharged from the Medical Reserve Corps, on account of physical disability existing prior to his entrance into the service, Lieut. GEORGE H. TURNER, Douglasville.

Idaho

To Portland, Ore., for duty, Lieut. JESSE D. LOUIS, St. Anthony.

To Rockefeller Institute for instruction, and on completion *to Army Medical School*, for duty, from Fort Riley, Lieut. GEORGE B. RANDALL, Buhl.

Illinois

To Alexandria, La., for temporary duty, Major WILLIAM R. CUBBINS, Chicago.

To Allentown, Pa., for duty, from Allentown, Lieut. THOMAS A. WAYLAND, Dallas City.

To Ann Arbor, Mich., Psychopathic Hospital, for intensive training, Lieuts. RALPH R. McCARTHY, WILLIAM J. RILEY, Chicago.

To Army Medical School, Washington, D. C., for instruction in orthopedic surgery, Lieut. HUBERT F. DUNN, Chicago.

To Camp Beauregard, Alexandria, La., base hospital, Lieuts. GEORGE E. ARZT, HENRY BARANCIK, Chicago; JOEL A. EASTMAN, La Rose; STEPHEN C. BRADLEY, Marshall.

To Camp Bowie, Fort Worth, Texas, base hospital, from Camp Bowie, Lieut. WALTER W. BOYNE, East St. Louis.

To Camp Custer, Battle Creek, Mich., base hospital, Lieut. JESSE R. GERSTLEY, Chicago.

To Camp Doniphan, Fort Sill, Okla., Fort Riley, Kan., Camp Dodge, Des Moines, Ia., and on completion *to his proper station,* Major JOHN A. HORNSBY, Chicago.

To Camp Grant, Rockford, Ill., for duty, Lieut. WILLIAM H. GEHL, Chicago.

To Camp Kearny, Linda Vista, Calif., base hospital, from Fort Riley, Capt. FRANK A. PALMER, Morris.

To Camp Logan, Houston, Texas, as assistant to camp surgeon, from Fort Leavenworth, Lieut. MAYER A. NEWHAUSER, Chicago.

To Camp McClellan, Anniston, Ala., base hospital, Lieut. FRANK BRINCKERHOFF, Florid.

To Camp Pike, Little Rock, Ark., base hospital, Capt. ARTHUR H. CURTIS, Chicago; Lieut. JEFFERSON D. McCULLOUGH, Jr., Aurora; from Philadelphia, Lieut. MANDEL A. I. COHEN, Chicago.

To Camp Sherman, Chillicothe, Ohio, base hospital, Capt. HOBERT S. McCAUGHEY, Hoopeston.

To Camp Travis, Fort Sam Houston, Texas., for duty, Lieuts. WALTER K. REED, Chicago; ERNEST B. DOWNS, Danville; WILLIAM R. WESENBERG, Mount City; PHILIP HERRIN, Villa Grove.

To Camp Zachary Taylor, Louisville, Ky., base hospital, Lieuts. RALPH WALDO CARPENTER, CARL FREUND, HARRY KATZ, Chicago; from Camp Taylor, Lieut. WILLIAM H. CREDE, Chicago; from Harvard Medical School, Lieut. TORRENCE REED, Chicago.

To Chicago, Ill., Presbyterian Hospital, for instruction, Capt. DAVID C. STRAUS, Chicago. On completion *to Camp Grant,* base hospital, from Fort Riley, Lieut. HARRY W. KINNE, West Chicago. On completion *to Camp Sherman,* base hospital, from Fort Riley, Lieut. STEPHEN BIEZIS, Chicago. On completion *to Camp Taylor,* base hospital, from Fort Riley, Lieut. FLOYD M. CLARK, Chicago. For duty, and on completion *to Camp Dodge,* base hospital, Lieut. ROBERT E. FLANNERY, Chicago.

To Cleveland, Ohio, for instruction, and on completion *to Fort Porter, N. Y.,* for duty, from Fort Riley, Lieuts. FRANK A. ANDERSON, Chicago; HUGH E. COOPER, Peoria.

To Detroit, Mich., Signal Corps Aviation Section, for duty, Lieut. SETH E. GILKEY, Chicago.

To Fort McPherson, Ga., for duty, from Ann Arbor, Major DEAN D. LEWIS, Chicago.

To Fort Oglethorpe for instruction, Capts. THOMAS A. HOGAN, Chicago; WILLIAM W. COLEMAN, Lincoln; Lieuts. G. F. BREWINGTON, JOHN F. GRANT, JOHN H. LUCZAK, CHARLES C. RENTFRO, EDMOND C. ROOS, Chicago; SAMUEL L. STEVENS, Dalton City; ELMER L. CROUCH, Jacksonville; from Harvard Medical School, Lieuts. HARRY J. FORTIN, ROBERT W. KISPERT, HERMAN G. SCHUMM, Chicago; from New York City, Lieut. IRWIN H. CUTLER, VINCENT W. KOCH, Chicago.

To Fort Ontario, N. Y., for temporary duty, from New York City, Lieut. MARCUS H. HOBART, Chicago.

To Fort Riley for instruction, Lieut. TIMOTHY S. HUGGARD, Chicago.

To Hot Springs, Ark., Army and Navy Hospital, from Fort Riley, Capt. GEORGE A. DARMER, Aurora.

To New Orleans, La., Charity Hospital, for instruction and on completion *to Camp McClellan,* from Fort Riley, Lieut. THEODORE F. BUTZOW, Chicago. On completion *to Camp Shelby,* base hospital, from Fort Riley, Lieut. BERNARD J. BOLKA Chicago.

To Pittsburgh, Pa., for instruction, and on completion to Camp Grant, base hospital, from Cornell Medical College, Capt. CLARENCE W. GEYER, Aurora.

To Rockefeller Institute for instruction, and on completion *to his proper station,* from Camp Jackson, Capt. THOMAS E. CHERRY, Cowden; from Camp Pike, Capt. CHARLES J. POOLE, Mt. Vernon. For instruction, from Fort Oglethorpe, Lieut. PIERRE A. STEELE, Chicago. For instruction in laboratory work, and on completion *to Army Medical School,* for duty, from Army Medical School Lieut. PATRICK J. GRIFFIN, Chicago.

To St. Louis, Mo., Washington University, for instruction in urology and Dermatology, Lieut. EMER L. CARTWRIGHT, Chicago; from Fort Riley, Lieut. GEORGE W. BOWMAN, Alsey.

To his home and to the inactive list, from Fort Riley, Lieut. EARL WILLIAM GILROY, Chicago.

To their homes and honorably discharged, Lieuts. WILLIAM F. PETERSON, Chicago; EVANDER D. TAYLOR, Moline.

Indiana

To Army Medical School, Washington, D. C., for instruction in orthopedic surgery, Lieut. RUSSELL A. GILMORE, Michigan City.

To Camp Gordon, Atlanta, Ga., base hospital, Lieut. EDWARD K. Newton, Whiting.

To Camp Jackson, Columbia, S. C., base hospital, Lieuts. EARL H. HARE, WILLIAM WISE, Indianapolis; CHARLES E. WOODCOCK, Whiteland.

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Lieut. ROBERT E. REPASS, Indianapolis.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. GLEN D. LARRISON, Brook.

To Fort Oglethorpe for instruction, Capt. SAMUEL G. JUMP, Muncie; from Camp Sherman, Capt. JOSEPH M. GLENN, Vincennes. Provisional base hospital, Capt. FLAVINE J. BECK, Hartsville; Lieut. JOHN E. WHITEHALL, South Bend.

To Fort Riley base hospital, for duty, from Fort Riley, Lieut. BYRL R. KIRKLIN, Muncie.

To New York City, Bellevue Hospital, for instruction, and on completion *to Camp Upton,* Long Island, N. Y., base hospital, from Fort Oglethorpe, Lieut. HARRY G. IRWIN, Huntertown.

To Rockefeller Institute for instruction in laboratory work, and on comple *to Army Medical School,* from Fort Oglethorpe, Lieuts. OLIVER E. GREIST, Delphi; HERMAN H. GICK, Indianapolis; JOHN S. ROBINSON, Winchester.

To St. Louis, Mo., Washington University, for instruction in urology and dermatology, from Fort Oglethorpe, Lieut. CLAUDE B. NEIDHAMER, Indianapolis.

Honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. ELMER B. MOSER, Windfall.

To his home and honorably discharged, from Fort Oglethorpe, Lieut. ARTHUR C. DOTY, Indianapolis.

Iowa

To Camp Custer, Battle Creek, Mich., for duty, from Fort Oglethorpe, Capt. FRANCIS LA PIANA, Des Moines.

To Camp Devens, Ayer, Mass., as orthopedic surgeon, from Harvard Medical School, Lieut. GARNETT S. FELT, New Providence.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion to Camp Taylor, from Fort Riley, Lieut. LOUIS B. AMICK, Millersburg.

To Fort Douglas, Utah, as gas instrutor, from Camp Doniphan, Capt. ALBERT E. CONRAD, Decorah.

To Fort Riley for instruction, Lieut. CARL KAIL, Hartford.

To Hoboken, N. J., for duty, from Fort Riley, Capt. ALANSON M. POND, Dubuque.

To New York City, Neurological Institute, for instruction, from Fort Riley, Lieut. ELMER P. WEIH, Clinton.

To Rockefeller Institute for instruction, and on completion to Camp, Lee, base hospital, Lieut. ERWIN J. GOTTSCH, Le Mars.

To St. Louis, Mo., Washington University, for instruction in urology and dermatology, Lieut. CHARLES E. MOORE, Newton.

To his home and honorably discharged, Lieut. ROBERT G. HINRICHS, Palmer.

Kansas

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieuts. HAROLD H. THEIS, Chautauqua; CHARLES E. YATES, Vinland.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to Camp Sherman,* base hospital, from Fort Riley, Lieut. LEO E. HAUGHEY, Concordia.

To Fort Leavenworth, Kan., department laboratory, for duty, from Fort Leavenworth, Lieut. MATHEW H. KEEFER, Kansas City.

To Fort McPherson, Ga., for duty, from Camp Taylor, Lieut. JAMES A. H. WEBB, Stafford.

To Rochester, N. Y., for duty, from Camp Pike, Capt. NEWTON A. SEEHORN, Hutchinson.

To Rock Island, Ill., for duty, from Fort Riley, Lieut. ULYSSES S. BOYER, Ada.

To his home and honorably discharged, Lieut. GEORGE E. KNAPPENBERGER, Mankato.

Kentucky

To Camp MacArthur, Waco, Texas, base hospital, Major CHARLES G. LUCAS, Louisville.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. CHARLES V. GIBSON, Barren Fork.

To Camp Upton, L. I., N. Y., as orthopedic surgeon, from Harvard Medical School, Lieut. MICHAEL P. LINK, Louisville.

To Camp Taylor, Louisville, Ky., base hospital, from Fort Riley, Lieut. CHARLES M. GARTH, Louisville.

To El Paso, Texas, for duty, from Fort Riley, Lieut. EDMUND R. YOST, Greenville.

To Fort Oglethorpe for instruction, Lieut. JOHN R. HODGES, Baskett.

To Lexington, Ky., to enlist the enlisted personnel and on completion *to the inactive list,* Lieut. GEORGE H. WILSON, Lexington.

To Monagomery, Ala., Signal Corps, Aviation School, Taylor Field, as camp surgeon, from Fort Oglethorpe, Lieut. JOHN A. SNOWDEN, Right Angle.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to Camp MacArthur,* base hospital, from Fort Oglethorpe, Lieut. SELMAR F. HAUSER, Covington. On completion *to Camp Shelby,* base hospital, from Fort Oglethorpe, Lieut. CHARLES G. GARR, Lexington.

To New York City, Bellevue Hospital, for instruction, and on completion to Camp Sheridan, base hospital, from Fort Oglethorpe, Capt. GUY P. GROGSBY, Louisville. Neurological Institute for intensive training, from Washington, D. C., Lieut. ERMIN L. RAY, Louisville.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School,* for duty, from Fort Oglethorpe, Lieut. ELMORE S. BACKSMAN, Newport.

Honorably discharged on account of physical disability existing prior to his entrance into the service, Capt. HORACE T. RIVERS, Paducah.

Resignations of Capt. EDWARD DAVENPORT, Hampton, and Lieut. JAMES R. SKINNER, Benton, accepted.

Louisiana

To Bayard, N. M., U. S. Army General Hospital, for observation and treatment, from Jackson Barracks, Capt. WILLIAM H. SEEMANN, New Orleans.

To Camp Beauregard, Alexandria, La., base hospital, from Camp Beauregard, Lieut. DAVID B. DAVIS, Bunkie.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. WALTER R. ABNEY, Lake Arthur.

To Fort Oglethorpe for instruction, Lieuts. ROBERT P. REYMOND, Baton Rouge; RUFUS S. FISHER, Sulphur.

To New Orleans, La., Charity Hospital, for instruction, and on completion to Camp Beauregard, base hospital, from Fort Oglethorpe, Lieut. RALPH P. EVANS, Alexandria.

To New York City, Bellevue Hospital, for instruction, and on completion *to Camp Sherman*, Chillicothe, Ohio, base hospital, from Fort Oglethorpe, Lieut. WALTER B. HUNTER, Shreveport.

To Rochester, N. Y., Rochester, General Hospital, for duty, from Fort Oglethorpe, Lieut. LEWIS H. LEVY, New Orleans.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, for duty, from Camp Sheridan, Lieut. JOSEPH R. D'AUNCY, New Orleans.

To Washington, D. C., for duty, from Army Medical School, Lieut. Abraham Mattes, New Orleans.

Honorably discharged, Lieut. NEELY McC. PALMER, Leesville.

Maine

To Camp Devens, Ayer, Mass., base hospital, from Camp Wadsworth, Lieut. JAMES W. LOUGHLIN, Newcastle.

To Camp Hancock, Augusta, Ga., as orthopedic surgeon, from Harvard Medical School, Lieut. RAYMOND V. BLISS, Bangor.

To Fort Oglethorpe, provisional base hospital, Lieut. LEROY B. SMITH, Winterport.

To Hoboken, N. J., for duty, Lieut. HAROLD R. DEPUE, Princeton.

To Philadelphia, Pa., for instruction in orthopedic surgery, from Army Medical School, Capt. TALCOTT O. VANAMEE, Portland.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, from Fort Oglethorpe, Lieut. HAROLD E. E. STEVENS, Lewiston.

To Washington, D. C., for consultation, and on completion *to his proper station*, from Camp Devens, Major WILLIAM C. PETERS, Bangor.

Maryland

To Aberdeen, Md., for duty, Lieut. JOHN COLLINSON, South River.

To Army Medical School, Washington, D. C., for instruction in orthopedic surgery, Lieut. DuMONT F. ELMENDORF, Baltimore.

To Camp Greene, Charlotte, N. C., for duty, from Fort Moultrie, Lieut. JOSEPH SALAN, Baltimore.

To Camp Meade, Annapolis Junction, Md., with the cardiovascular board examining troops, from Camp Meade, Lieut. HARRY M. STEIN, Baltimore.

To Fort Dade, Fla., for duty, from Fort Oglethorpe, Lieut. HARRY H. WILSON, Baltimore.

To Fort Des Moines, Iowa, for temporary duty, Lieut. EDWARD S. JOHNSON, Baltimore.

To Fort Oglethorpe for instruction, Lieut. GEORGE PETERSON, Wallville. Provisional base hospital, Lieut. GABRIEL RIGAU, Baltimore.

To New York City, Neurological Institute, for intensive training, Lieut. JOHN G. RUNKEL, Catonsville.

To Rockefeller Institute for instruction, and on completion *to Camp Meade*, base hospital, from Fort Oglethorpe, Lieut. CLAUDE C. KELLY, Baltimore. On completion *to his proper station*, from Camp Lee, Lieut. WILLIAM R. GERAGHTY, Baltimore.

To his home and honorably discharged, Lieut. WILLIAM E. McCLANAHAN, Baltimore.

Massachusetts

To Army Medical School, Washington, D.C., as orthopedic instructor, Lieut. EDWARD KING, Boston. For instruction in orthopedic surgery, Lieuts. WILLIAM F. COTTING, Boston; CARL BEARSE, Roxbury; HAROLD THOMAS, Wollaston; from Camp McClellan, Lieut. LOUIS I. SKIRBALL, Revere.

To Boston City Hospital, Mass., as military director, Major JOSHUA C. HUBBARD, Boston.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from Fort Oglethorpe, Lieut. WILLIAM W. MORRISS, Fall River.

To Camp Logan, Houston, Texas, for duty, from Fort Ethan Allen, Capt. HARRY E. SEARS, Beverly.

To Camp Pike, Little Rock, Ark., for duty, from Fort Oglethorpe, Lieut. VINCENT J. DI MENTO, Boston.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. WILLIAM E. REID, Newton.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. GEORGE H. CROFTON, Worcester.

To Camp Upton, L. I., N. Y., as orthopedic surgeon, from Army Medical School, Lieut. RICHARD A. CUNNINGHAM, Boston.

To Fort Ethan Allen, Vt., for duty, from Fort Oglethorpe, Lieut. ALFRED T. DALRYMPLE, Boston.

To Fort Oglethorpe for instruction, Capt. JOHN D. H. WOODWORTH, Boston; Lieuts. CHARLES W. BRESSLER, ALBERT A. PASTENE, HAMILTON C. PERKINS, ISREAL E. RUDMAN, JOHN J. STACK, Boston; AUGUSTUS H. GALVIN, Springfield; from Harvard Medical School, Lieuts. HARRIS E. POWERS, Boston; EARLE E. HUSSEY, Fall River; PATRICK H. O'CONNOR, New Bedford; GEORGE MOSSMAN, Westminster.

To Hoboken, N. J., for duty, Lieut. MORRIS HOFFMAN, Boston; from Fort Oglethorpe, Lieut. CHARLES H. MERRILL, Lynn.

To New York City, Bellevue Hospital, for instruction, and on completion *to Camp Gordon*, base hospital, from Fort Oglethorpe, Lieut. WILLARD P. STAPLETON, Worcester. On completion *to Camp Jackson*, base hospital, Lieut. DAVID J. McCONNELL, Greenfield.

To Philadelphia, Pa., University of Pennsylvania, for instruction, and on completion *to his proper station*, Major MENDALL EMERSON, Worcester, from Camp Sevier, Lieut. DAVID SUSSLER, Dorchester.

To Rockefeller Institute for instruction, and on completion *to Camp Upton*, base hospital, from Fort Ethan Allen, Capt. HERBERT B. PERRY, Northampton. On completion *to Camp Wheeler*, base hospital, from Fort Oglethorpe, Capt. NATHANIEL R. MASON, Boston. On completion *to Army Medical School*, for duty, from Fort Oglethorpe, Lieut. HORMIDAS CHOQUETTE, New Bedford.

To his home and to the inactive list, from Camp Devens, Major JOSEPH H. PRATT, Boston.

To their homes and honorably discharged, on account of physical disability existing prior to entrance into the service, Lieuts. WILLIAM E. BROWNE, Boston; LUTHER J. SHEPLEY, Fall River; JOHN G. SWEENEY, North Cohasset.

Michigan

To Army Medical School, for instruction in orthopedic surgery, Lieut. ROBERT M. BAKER, Ann Arbor.

To Camp Custer, Battle Creek, Mich., base hospital, from duty as a contract surgeon, at Camp Custer, Capt CHARLES R. SOWDER, Camp Custer. As orthopedic surgeon, from Army Medical School, Lieut. WILLIAM S. CONNS, Detroit.

To Camp Devens, Ayer, Mass., as orthopedic surgeon, from Army Medical School, Lieut. AUGUST E. GEHRKE, Detroit.

To Camp Doniphan, Fort Sill, Okla., for temporary duty, Lieut. DAMON O. WALTHALL, Ann Arbor.

To Camp Greene, Charlotte, N. C., for duty, from Fort Moultrie, Lieut. JOSEPH G. KNAPP, Wyandotte.

To Camp Hancock, Augusta, Ga., base hospital, from Camp Taylor, Lieut. LELAND H. TOWER, Battle Creek.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. ALGERT H. KROHN, Detroit.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to Camp Taylor*, Louisville, Ky., base hospital, Capt. ALBERT E. STOCKLEY, Mesick.

To Fort McHenry, Md., for temporary duty, from Fort Riley, Lieut. EDWIN M. CHAUNCEY, Albion.

To Fort McPherson, Ga., for duty, from Camp Sevier, Lieut. WILLIAM J. ERKENBECK, Detroit.

To Fort Oglethorpe for instruction, Capts. BYRON H. JENNE, GEORGE V. OILL, HERMAN H. RUNO, Detroit; Lieut. HUGH R. HILDEBRANT, Ann Arbor.

To Fort Riley for instruction, Lieut. JOHN L. KELLIHER, Calumet.

To New Haven, Conn., U. S. A. General Hospital, from Fort Oglethorpe, Capt. CHARLES H. MERRILL, Detroit.

To New York City for instruction in orthopedic surgery, from New York City, Capt. EUGENE B. STEBBINS, Ironwood. Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, Lieut. LYLE B. KINGERY, Ann Arbor.

To Pittsburgh, Pa., for instruction, and on completion *to Fort McPherson*, for duty, from Fort Oglethorpe, Lieut. WILLIAM Y. KENNEDY, Detroit.

Minnesota

To Cleveland, Ohio, for instruction, and on completion *to Camp Custer*, base hospital, from Fort Riley, Lieut. STEWART H. ANDERSON, Wells.

To Fort McPherson, Ga., for duty, Lieut. SAMUEL D. WEAVER, Rochester.

To Fort Oglethorpe for instruction, from Philadelphia, Lieut. IVER F. SELLESETH, Glenwood.

To Fort Riley for instruction, Lieuts. LAWRENCE J. LEONARD, Minneapolis; WALTER H. HALLORAN, St. Paul; from Fort Logan H. Roots, Lieut. JEAN B. CLAIR, Winstead.

To New York City, Bellevue Hospital, for instruction, and on completion *to his proper station*, from Camp Greene, Lieut. RALPH B. BETTMAN, Rochester.

Honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. PETER J. BURSHEIM, Lake Benton.

Mississippi

To New Orleans, La., Charity Hospital, for instruction and on completion *to Camp Sheridan*, base hospital, Lieut. PAUL G. GAMBLE, Greenville.

To Rochester, N. Y., Rochester General Hospital, for duty, from Camp Shelby, Lieut. FREDERICK M. COOK, Poplarville.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. CLEVELAND DAVIS, Morgan City.

Missouri

To Camp Pike, Little Rock, Ark., base hospital, Lieuts. HARVEY P. BOUGHNOU, Kansas City; FRANK L. DARROW, St. Louis.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. CYRUS MALLETTE, Bloodland.

To Camp Travis, Fort Sam Houston, Texas, for duty, Capt. SIMON W. WOLTZEN, Clinton; Lieut. ROY A. WALTHER, St. Louis.

To Chicago, Ill., Presbyterian Hospital, for instruction and on completion *to Camp Dodge*, Des Moines, Iowa, base hospital, Capt. OWEN W. KRUEGER, Kansas City; Lieut. FINIS C. SUGGETT, Ashland; from Fort Riley, Lieut. FOREST F. FOSTER, Kansas City. On completion *to Camp Custer*, base hospital, from Fort Riley, Lieut. FRED E. GARGATZ, Kearney.

To Fort Bliss, for duty, from Jefferson Barracks, Capt. JOHN D. HESS, Clarkton.

To Fort Leavenworth, Kan., Department Laboratory, for duty, Lieut. LEO H. WALLENDORF, St. Joseph.

To Fort Oglethorpe for instruction, from Philadelphia, Capt. RALPH NIEDRINGHAUS, St. Louis; Lieut. HENRY L. HESS, Kansas City; from Harvard Medical School, Lieut. FRED C. CALLOWAY, Ravanna.

To Fort Riley for instruction, Capts. GEORGE McC. HAMILTON, Coffman; WILLIAM T. ELAN, St. Joseph; Lieut. LESLIE E. DEAN, Marysville.

To Kansas City, Mo., for physical examination to determine his fitness for active service, Capt. JOHN G. HAYDEN, Kansas City.

To New Orleans, Charity Hospital, for instruction, and on completion *to Camp McClellan*, Anniston, Ala., base hospital, from Camp Shelby, Lieut. JOHN M. PERRY, Princeton.

To Plainfield, N. J., for inspecting property and on completion *to his proper station*, from Plainfield, Lieut. WILLIAM J. EZICKSON, Webb City.

To St. Louis and *Kansas City, Mo.*, to give instruction and on completion *to his proper station*, Major MILREY P. BLAIR, St. Louis, Washington University, for instruction in urology and dermatology, Capt. ROBERT G. HALL, Fulton.

To his home and honorably discharged on account of physical disability existing prior to entrance into the service, Lieut. GEORGE C. WILHITE, St. Louis.

Montana

To Portland, Ore., for duty, Capt. EDWIN A. GERHART, Billings.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, for duty Lieut. CARL O. RINDER, Deer Lodge.

Nebraska

To Camp Pike, Little Rock, Ark., base hospital, Lieut. HARRY E. FLANSBURG, Lincoln.

To Cleveland, Ohio, for instruction, and on completion *to Camp Sevier*, Greenville, S. C., base hospital, Lieut. JACOB M. ERMAN, Omaha.

To Fort Porter, N. Y., for duty, from Fort Riley, Lieut. OSCAR E. COLEMAN, Ainsworth.

To Fort Riley, for instruction, Lieuts. JOHN S. SIMMS, North Platte; JOSEPH M. CURTIS, Tecumseh.

To New York City for instruction in orthopedic surgery, from New York City, Capt. CHARLES E. REMY, Johnstown.

To Rochester, N. Y., Rochester General Hospital, for duty, from Camp Beauregard, Lieut. DEXTER D. KING, York.

Nevada

To Cleveland, Ohio, for instruction, and on completion *to Camp Custer*, base hospital, from Fort Riley, Capt. CLAUDIUS W. WEST, Elko.

To his home and honorably discharged, Lieut. WILLIAM T. GLEASON, Ely.

New Hampshire

To Army Medical School, Washington, D. C., for instruction in orthopedic surgery, Lieut. JAMES B. WOODMAN, Franklin.

To Boston, Mass., General Hospital, for instruction, and on completion *to Camp Jackson*, base hospital, Lieut. PHILIAS A. PION, Concord.

To Fort Oglethorpe, for duty, from Fort Oglethorpe, Lieut. EARL P. CUSHMAN, Claremont.

New Jersey

To Camp Devens, Ayer, Mass., as a member of a board of medical officers for the special examination of the command for tuberculosis, from Fort Warren, Lieut. SAMUEL R. FAIRCHILD, Penngrove.

To Camp Logan, Houston, Texas, as orthopedic surgeon, from Fort Oglethorpe, Lieut. THOMAS W. HARVEY, JR., Orange.

To Cincinnati, Ohio, for instruction in orthopedic surgery, from Fort Oglethorpe, Capt. WILLIAM L. CORNWELL, Bridgeton.

To Fort Oglethorpe for instruction, Lieut. BARNEY D. LAVINE, Trenton.

To Hoboken, N. J., for duty, Lieuts. WILLIAM H. McCALLION, Elizabeth; GEORGE S. SPENCE, Leesburg; WALTER B. MOUNT, Montclair; THOMAS V. CONNOLLY, Paterson; from Fort Oglethorpe, Lieut. THOMAS CRAVEN, Atlantic City.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to Fort Oglethorpe* for duty, from Fort Oglethorpe, Lieut. CHARLES B. HARPER, Trenton.

To Rochester, N. Y., Rochester General Hospital, for duty from Camp Sheridan Lieut. HENRY G. SMITH Cedar Grove.

To the inactive list from Camp Sherman, Lieut. CHARLES BROWNE, Princeton.

New Mexico

To Fort Riley for instruction, Lieut. ROLAND R. CROSS, Dulce.

New York

To Allentown, Pa., for duty, Lieut. ELMER E. OWEN, Batavia.

To Army Medical School for instruction, from Camp Custer, Capt. CHARLES E. R. PANNACI, Gloversville. For instruction in orthopedic surgery, Lieuts. CHARLES GOLDMAN, Brooklyn; GEORGE K. BLUE, New York City; from Fort Oglethorpe, Lieut. FRANCIS B. RING, Brooklyn.

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Camp Devens*, base hospital, from Fort Oglethorpe, Lieut. JAMES F. DOUGHERTY, Richmond Hill.

To Camp Devens, Ayer, Mass., as a member of a board of medical officers for the special examination of the command for tuberculosis, from Fort H. G. Wright, Capt. BRUNO S. HOROWICZ, New York City; Lieut. ADELBERT C. ABBOTT, Syracuse; from Fort Warren, Lieuts. HERMAN JUDKOWITZ, Brooklyn; CLYDE DANFORD OATMAN, Poolville.

To Camp Dix, Wrightstown, N. J., base hospital, Lieuts. SAUL DANSER, Brooklyn; JOHN A. METZEN, Buffalo; WILLIAM FRIEDMAN, GERALD S. SHIBLEY, New York City.

To Camp Grant, Rockford, Ill., as orthopedic surgeons, from Army Medical School, Lieuts. GEORGE J. GANOW, Port Dickinson; ROBERT E. O'ROURKE, New York City.

To Camp Meade, Annapolis Junction, Md., with the cardiovascular board examining troops, from Camp Meade, Capt. CHARLES C. O'CONNOR, Brooklyn.

To Camp Pike, Little Rock, Ark., base hospital, from Newport News, Capt. JOHN B. BRYNE, JR., Brooklyn; Lieut. CHARLES PHILLIPS, New York City.

To Camp Sherman, Chillicothe, Ohio, as orthopedic surgeon, from Harvard Medical School, Capt. ALFRED H. PARSONS, Great Neck base hospital, Lieut. THOMAS C. McCOY, New York City. For duty, from Fort Oglethorpe, Lieut. ELBRIDGE A. CARPENTER, New York City.

To Camp Upton, L. I., N. Y., for temporary duty, from Camp Sherman, Capt. REUBEN J. HELD, New York City.

To Camp Wadsworth, Spartanburg, S. C., for duty, Major GEORGE W. GOLER, Rochester. As orthopedic surgeon, from Army Medical School, Lieut. FRANCIS J. A. BENNETT, Auburn.

To Chicago, Ill., School of Plastic and Oral Surgery, Northwestern University Dental School, for instruction, from Fort Riley, Capt. MARK H. WARD, Suffern.

To Fort McPherson, Ga., for duty, from Camp Upton, Lieut. HENRY R. KUTIL, New York City.

To Fort Oglethorpe for instruction, Capt. EDWIN H. HALL, Briarcliff Manor; from Camp Dix, Capt. HENRY C. DREW, Brooklyn. For instruction, Lieuts. ISIDOR GRAD, Bronx; MERRILL N. FOOTE, HERMAN GROSEMAN, ALFRED H. IASON, MORRIS T. KOVEN, Brooklyn; JOSEPH A. NOWICKI, Buffalo; ALEXANDER ALTSCHUL, DIXON L. AUSTIN, CHARLES M. GRIFFITH, FRANK L. MELENEY, BENJAMIN NOCILLA, HERMAN OSTREWSKY, GEORGE SHEINBERG, New York City; GRADY S. CLINKSCALES, Poughkeepsie; FRED L. RITTER, Pulaski; HERBERT L. KALLET, Syracuse; from Army Medical School, Lieut. JACOB URDANG, Brooklyn; from Harvard Medical School, Lieut. DUDLEY L. MORTON, New York City; from New York City, Lieut. ERNEST S. BULLUCK, New York City; from Philadelphia, Lieuts. ISADORE M. LEAVY, HARRY D. SONNENSCHEIN, New York City. Provisional base hospital, Lieut. ARNOLD SHAMASKIN, New York City.

To Hoboken, N. J., for duty, Lieut. CHARLES A. PERRY, Albany; THOMAS C. McCOY, New York City.

To Lakewood, N. J., and *Belle Meade, N. J.*, for inspection, and on completion *to his proper station*, Major RICHARD H. HUTCHINGS, Ogdensburg.

To New Haven, Conn., U. S. Army General Hospital, from Camp Meade, Capt. THOMAS F. ELLIS, Brooklyn.

To New York City for consultation, and on completion *to his proper station*, Major PEARCE BAILEY, New York City. To enlist the additional personnel for base hospital, and on completion *to the inactive list* of the Medical Reserve Corps, Major WILLIAM F. HONAN, New York City. For instruction in orthopedic surgery, from Army Medical School, Capt. SURSE J. TAYLOR, Albany; on completion *to his proper station*, from Rochester, Capt. EDWARD T. WENTWORTH, Rochester. Bellevue Hospital, for instruction and on completion *to Walter Reed General Hospital*, for temporary duty, Capt. SAMUEL STEWART, Syracuse. On completion *to Williamsbridge*, for temporary duty, Capt. GEORGE F. SAMMIS, Brooklyn. On completion *to Camp Dix*, base hospital, from Fort Oglethorpe, Lieut. ARTHUR C. SMITH, Elmira. On completion *to Camp Lee*, base hospital, Lieut. IRVIN J. RUSSELL, Port Jefferson. On completion *to Camp Meade*, base hospital, from Fort Oglethorpe, Lieut. ONSLOW A. GORDON, Brooklyn. On completion *to Camp Upton*, base hospital, from Fort Oglethorpe, Lieut. FREDERICK CHRISTOPHER, New York City. As instructor in class of fractures and war surgery, Lieut. EDWARD A. KING, New York City. For duty, and on completion *to Fort McHenry*, from Hoboken, Lieut. THOMAS F. DAVIES, Floral Park. For instruction in orthopedic surgery, from New York City, Lieut. IRA W. LIVERMORE, Gowanda. Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, Lieuts. BENJAMIN E. CARMEL, Brooklyn; HERMAN GOODMAN, New York City; from Fort Oglethorpe, Lieuts. JOSEPH L. WOZNIAK, Buffalo; LEO EDELMAN, CHARLES WOLF, New York City.

To Philadelphia, Pa., for instruction, and on completion *to Camp Lee*, base hospital, from Fort Oglethorpe, Lieut. ARWIN H. MACFARLAND, Rome.

To Pittsburgh, Pa., for instruction, and on completion to Camp Dodge, base hospital, from Fort Oglethorpe, Lieut. JOHN H. REYNOLDS, Brooklyn; on completion *to Fort Oglethorpe* for duty from Fort Oglethorpe, Lieut. LAWRENCE M. BELZER, Buffalo.

To Rochester, N. Y., Rochester General Hospital, for duty, from Fort Oglethorpe, Lieut. BERT G. VOORHEES, Elmira.

To Rockefeller Institute for instruction, and on completion *to his proper station*, from Camp Devens, Major ROBERT W. ANDREWS, Poughkeepsie. For instruction in the serum therapy of pneumonia, and on completion *to his proper station*, from Rochester, Capt. CHARLES I. HINCHER, Rochester. For instruction and on completion to Camp Lee, base hospital, from Fort Oglethorpe, Lieut. BERNARD McD. KRUG, Warwick. On completion *to his proper station*, from Camp Sheridan, Lieut. DORSEY G. TYLER, Brooklyn; from Williamsbridge, Lieut. WALTER S. WOODRUFF, Mt. Vernon. On completion *to New York City* for duty, Lieut. RUSTIN McINTOSH, New York City. For instruction in laboratory work, and on completion *to Army Medical School*, for duty, Lieut. FREDERICK D. ZEMAN, New York City; from Camp Beauregard, Lieut. MORRIS MASLON, Glen Falls; from Fort Oglethorpe, Lieuts. EPHRAIM M. BLUE-

STONE, JULIUS PINCUS, FRANK TANNENBAUM, New York City.

To Washington, D. C., in the Surgeon-General's Office, Capt. JOHN E. DOUGHERTY, Brooklyn. For consultation and on completion *to his proper station*, from New York City, Capt. BRAINERD H. WHITBECK, New York City. For duty, from Army Medical School, Lieuts. CYRUS W. CULVER, Lowville; MARTIN F. NOLAN, Tonawanda.

Resignations of Capt. EDGAR S. BULLIS, Glen Falls, and Lieut. DAVID M. KAPLAN, New York City, accepted.

To his home and honorably discharged, Capt. ARTHUR I. BOYER, New York City.

Honorably discharged, Lieut. MALCOLM T. MUNKITTRICK, New York City. On account of physical disability, existing prior to entrance into the service, Lieuts. WILLIAM J. RYAN, Newport; THOMAS J. RYAN, New York City.

North Carolina

To Camp Grant, Rockford, Ill., base hospital, from Camp Hancock, Lieut. JOSEPH W. HOOPER, Wilmington.

To Camp Greene, Charlotte, N. C., as assistant to the camp surgeon, from Fort Oglethorpe, Lieut. DARIUS C. ABSHER, Mt. Airy.

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Lieut. RALPH C. SADLER, Whiteville.

To Camp Shelby, Hattiesburg, Miss., base hospital, Capt. DONALD M. McINTOSH, Old Fort; Lieut. JAMES W. FARRIOR, Kenansville.

To Fort Oglethorpe for instruction, Lieut. AMZI JEFFERSON ELLINGTON, Raleigh.

To Newport News, Va., for duty, from Camp Beauregard, Major JOHN T. BURRUS, High Point.

To New York City, Post-Graduate School and Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Lieut. JACOB H. ROZELLE, Salisbury.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. DAVID T. LONG, Hurdle Mills.

North Dakota

To Camp Dodge, Des Moines, Ia., for duty, Lieut. JOHN R. MAC KENZIE, Carrington.

To Cleveland, Ohio, for instruction, and on completion *to Camp Sheridan*, base hospital, from Fort Riley, Capt. WILLIAM A. GERRISH, Jamestown.

To his home and honorably discharged, Capt. NICHOLAS J. SHIELDS, Wahpeton.

Ohio

To Army Medical School, Washington, D. C., for instruction in orthopedic surgery, Lieuts. CLARENCE W. BETZNER, Cincinnati; EDWARD REMY, Jr., Mansfield.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to Camp Taylor*, base hospital, from Fort Riley, Lieut. OLEN E. CHENOWETH, Lima.

To Dayton, Ohio, McCook Field, for duty, from Wilbur Wright Field, Major COURTNEY P. GROVER, National Military Home.

To Fort Oglethorpe, for duty, from Fort Oglethorpe, Lieut. GEORGE B. FAULDER, Columbus. For instruction, Lieuts. GEO. G. HUNTER, Cincinnati; JOSEPH E. STEPHAN, Jewell; ELLIS D. KACKLEY, Pleasant City; LEWIS R. CARR, Prairie Depot; ROBERT McQ. ANDRE, Waverly; DAVE H. SMELTZER, Youngstown. Provisional base hospital, Lieut. WILLIAM L. LAYPORT, Cincinnati.

To Fort Riley for instruction, from Fort Riley, Lieut. GALE C. GUTHRIE, Uhrichsville.

To Hoboken, N. J., for duty, Lieut. FREDERICK P. PURDY, Killbuck.

To New Haven, Conn., U. S. Army General Hospital, from Fort Oglethorpe, Lieut. CHARLES K. ERVIN, Cincinnati.

To New York City, Roosevelt Hospital, for instruction and on completion *to Camp Lee*, base hospital, from Chickamauga Park, Lieut. CLYDE B. TERWILLEGAR, Milford.

To Philadelphia, Pa., for instruction and on completion *to Camp Sevier*, base hospital, from Fort Oglethorpe, Lieut. CLARK E. SHARP, Chillicothe.

To Rockefeller Institute, for instruction and on completion *to his proper station*, from Fort Oglethorpe, Major WILLIAM H. LEET, Conneaut. For instruction in laboratory work and on completion *to Army Medical School*, for duty, from Army Medical School, Lieut. FREDERICK A. EULER, Cleveland.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. HOMER C. BALLARD, Cleveland.

Oklahoma

To Camp Cody, Deming N. M., base hospital, Lieut. JAMES F. MEANS, Claremore.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieuts. ISAAC W. ROGERS, Kellyville; JAMES O. WAILS, Morris; JAMES B. FERGUSON, Sallisaw.

To Chicago, Ill., Presbyterian Hospital for instruction and on completion *to Camp Doniphan*, base hospital, from Fort Riley, Lieut. CHARLES C. SIMS, Healdton.

To New Orleans, La., Charity Hospital, for instruction and on completion *to Camp Beauregard*, from Fort Riley, Capt. VIRGIL BERRY, Okmulgee.

To Waco, Texas, Rich Field, Signal Corps Aviation School, for duty, Lieut. JOSEPH T. CUNTER, Ochelata.

To his home and honorably discharged, Lieut. CHARLES W. BACON, Enid.

Oregon

To Camp Lewis, American Lake, Wash., for temporary duty, Capt. CLAUDE M. PEARCE, Baker.

To New York City, Orthopedic Hospital, for instruction in Orthopedic surgery, from New York City, Capt. JOHN H. BESSON, Portland.

To report by wire to the Commanding General, Western Department, for assignment to duty, Lieuts. PRINCE C. PAGE, Buxton; ERIC J. GAMBEE, Portland; from Fort Douglas, Lieut. JAMES A. BEST, Pendleton.

Honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. HAROLD C. BEAN, Portland.

Pennsylvania

To Army Medical School, Washington, D. C., for duty, Lieut. GEO. L. ARMITAGE, Eddystone. For instruction in orthopedic surgery, from Camp Gordon, Lieut. ALBERT P. BERG, Philadelphia.

To Atlanta, Ga., School of Technology, for duty, Lieut HAROLD P. LANSKE, Allentown.

To Camp Custer, Battle Creek, Mich., for duty, from Mineola, Capt. SAMUEL C. SMITH, Hollidaysburg.

To Camp Devens, Ayer, Mass., as a member of a board of medical officers for the special examination of the command for tuberculosis from Fort H. G. Wright, Lieut. HARRISON M. STEWART, Mont Alto.

To Camp Dix, Wrightstown, N. J., base hospital, Lieuts. THOMAS KLEIN, SIMON S. LEOPOLD, Philadelphia; FRANK GUILLARD, Wells Tannery.

To Camp Dodge, Des Moines, Iowa, as orthopedic surgeon, from Fort Oglethorpe, Lieut. GEORGE H. FAGGART, Philadelphia.

To Camp Meade, Anapolis Junction, Md., base hospital, Lieuts. CHARLES A. FITZGERALD, Clarion; STEPHEN W. NEALON, Latrobe. For duty, from Fort Oglethorpe, Lieut. HOMER G. COLLINS, Meyersdale.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. BENJAMIN A. FRYE, Sharpesville.

To Camp Upton, L. I., N. Y., as orthopedic surgeon, from Army Medical School, Lieut. JAMES C. HARDING, Philadelphia.

To Cleveland, Ohio, for instruction and on completion *to Camp Custer*, base hospital, from Fort Oglethorpe, Lieut. PAUL G. DICK, Connellsville.

To Fort Oglethorpe, for instruction, Capt. RUDOLPH A. CONSTIEN, Ashland; from Camp Sherman, Capt. DANIEL P. RAY, Johnstown. Provisional Base Hospital, Capt. ARTHUR D. SMITH, Philadelphia. For instruction, Lieut. WILLIAM O. DOUGHERTY, Bethlehem; from Harvard Medical School, Lieuts. JOHN H. ALEXANDER, BROWN FULTON, WILLIAM O. MARKELL, Pittsburgh; EDWARD PARDOE, South Fork; from New York City, Lieut. HARRY C. POLLOCK, Wilmerding; from Philadelphia, Lieuts. FRANK P. McCARTHY, Erie; SCOTT A. NORRIS, Homestead; HENRY J. GILES, Pittsburgh; JAMES B. HELLER, Pottsville.

To Fort Sam Houston, Texas, for duty, from duty as a private at Fort Sam Houston, Lieut. CHARLES L. PIPER, McKeesport.

To Hoboken, N. J., for duty, Lieut. CARL H. ROBINSTEEN, Ford City.

To Lakewood, N. Y., for temporary duty, from Camp Sevier, Major EDWARD H. GOODMAN, Philadelphia.

To New Orleans, La., Charity Hospital, for instruction and on completion *to Camp Shelby*, base hospital, from Fort Oglethorpe, Lieut. LOUIS F. FALLON, Wayne.

To Newport News, Va., as orthopedic surgeon, from Army Medical School, Capt. GUY C. BOUGHTON, Erie.

To New York City, Bellevue Hospital, for instruction and on completion *to Camp Devens*, base hospital, from Fort Oglethorpe, Lieut. JAMES A. MUNSTER, Pittsburgh. On completion *to Camp Upton*, base hospital, from Fort Oglethorpe, Lieut. THOMAS J. McNILIS, Lucerne. On completion *to Camp Zachary Taylor*, base hospital, from Fort Oglethorpe, Lieut. ARCHIE W. DUNN, Willow Grove. On completion *to Fort McPherson*, for duty, from Fort Oglethorpe, Lieut. HOWARD A. McKNIGHT, Philadelphia. Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Lieut. DON D. BROOKS, Connellsville.

To Petersburg, Fla., and *Crystal Beach, Fla.*, to inspect and report upon certain sites and on completion *to his proper station*, Lieut. CHARLES C. GANS, Chambersburg.

To Philadelphia, Pa., base hospital, for duty, from Fort Oglethorpe, Lieut. JAMES C. McCONAUGHEY, Wayne. University Hospital, for instruction and on completion *to Camp Greene*, base hospital, from Fort Oglethorpe, Lieut. EDWIN C. BOYER, Johnstown.

To Pittsburgh, Pa., for instruction and on completion *to Camp Sherman*, base hospital, from Fort Oglethorpe, Lieut ARTHUR D. COWDRICK, Clearfield.

To Rockefeller Institute, for instruction, from Fort Oglethorpe, Lieut. CLAUDE L. BRADFORD, Pittsburgh. For instruction in laboratory work and on completion *to Army Medical School*, from Fort Oglethorpe, Lieut. ARTHUR E. SIMONIS, Tremont.

To Washington, D. C., for duty in the Surgeon-General's Office, from Pittsburgh, Major GEORGE C. JOHNSTON, Pittsburgh. For duty, from Army Medical School, Lieut. SAMUEL B. THOMAS, Waynesboro.

To Williamsbridge, N. Y., for duty, from Fort Oglethorpe, Lieut. JOHN J. KOLSKI, Donora.

To his home and to the inactive list, Lieut. MOSES H. BAKER, Pittsburgh.

To their homes and honorably discharged, Lieuts. CHARLES E. HERMAN, Carnegie; FRANK H. LONG, Coopersburg; CLARENCE

E. APPLE, Oak Lane Terrace. On account of physical disability existing prior to entrance into the service, Lieut. FRANCIS M. QUINN, Minersville.

Rhode Island

To Camp Fremont, Palo Alto, Calif., base hospital, from Camp Freemont, Lieut. JAMES HAMILTON, JR., Providence.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. CHARLES L. LYNCH, Providence.

South Carolina

To Camp Greene, Charlotte, S. C., base hospital, Lieut. ALEXANDER S. BLANCHARD, Williston.

To Camp Shelby, Hattisburg, Miss., base hospital, Lieut. WADE THOMPSON, Anderson.

To Camp Upton, L. I., N. Y., as Division Sanitary Inspector, from Camp Upton, Capt. WILLIAM J. BURDELL, Lugoff.

To Camp Wadsworth, Spartanburg, S. C., base hospital, Lieuts HOMER M. DANIEL, Anderson; MANLY C. SMITH, Simpsonville.

To Fort Oglethorpe, for instruction, Lieuts. LONNIEL M. McMILLAN, Florence; JAMES J. GLENN, York; from Philadelphia, Lieut. ROBERT T. FERGUSON, Gaffney. Provisional base hospital, Lieuts. ROBERT W. PRESTON, Charleston; LESLIE ST. C. HAYS, Clinton.

To New York City, Roosevelt Hospital, for instruction and on completion *to Camp Greene,* base hospital, from Fort Oglethorpe, Lieut. JOSEPH E. THOMAS, Jefferson.

To Rockefeller Institute, for instruction in laboratory work and on completion *to Army Medical School,* for duty, from Camp Jackson, Lieut. GEORGE F. KLUGH, Cross Hill.

South Dakota

To Chicago, Ill., Presbyterian Hospital, for instruction and on completion *to Camp Grant,* base hospital, from Fort Riley, Lieut. ROSCOE R. FISK, Brooklings.

To Fort Riley, for instruction, from Camp Dodge, Capt. ALBERT E. BRAWN, Webster.

Tennessee

To Camp Bowie, Fort Worth, Texas, base hospital, from Memphis, Lieut. JAMES B. STANFORD, Memphis.

To Camp McClellan, Anniston, Ala., base hospital, Lieuts. CLAUDE A. SYMONS, Memphis; MILTON S. LEWIS, Nashville.

To Camp Meade, Annapolis Junction, Md., base hospital, from Memphis, Tenn., Lieut. JOHN J. SHEA, Memphis.

To Camp Shelby, Hattiesburg, Miss., as orthopedic surgeon, from Army Medical School, Capt. ALPHONSE H. MEYER, Memphis. Base hospital, Lieut. ROBERT L. GALLAHER, Caryville.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. WILLIS S. ALEXANDER, Ridgely.

To Cleveland, Ohio, for instruction and on completion *to Camp Custer,* base hospital, from Fort Oglethorpe, Lieut. GROVER C. ENGLISH, Mount Pleasant.

To Fort McPherson, Ga., for duty, from Camp Gordon, Lieut. GROVER C. CONYERS, Gates.

To Fort Oglethorpe, for duty, from Camp Joseph E. Johnston, Lieut. GEORGE A. HATCHER, Nashville. For instruction, Lieut. JOSEPH C. BLANKENSHIP, Walling.

To New Orleans, La., Charity Hospital, for instruction and on completion *to Camp Doniphan,* base hospital, Lieut. SAMUEL T. PARKER, Lexington.

Texas

To Army Medical School, for a course in orthopedic surgery, from Camp Grant, Lieut. LOUIS E. DEVENDORF, Taft.

To Camp Joseph E. Johnston, Jacksonville, Fla., base hospital, from Camp Meade, Capt. JOSEPH E. JOHNSON, Kirwin.

To Camp Travis, Fort Sam Houston, Texas, base hospital, Capt. STANLEY T. LOWRY, San Antonio; Lieuts. CARL K. ARNOLD, Henrietta; ALLEN JOHNSON, San Antonio.

To Cleveland, Ohio, for instruction and on completion *to Camp Taylor,* base hospital, from Fort Riley, Lieut. ROSCOE ETTER, Hubbard.

To Fort Oglethorpe, for instruction, Lieut. WILLIAM H. BENNETT, Lamosa.

To New Orleans, La., Charity Hospital, for instruction and on completion *to Camp MacArthur,* base hospital, from Fort Riley, Capt. ROBERT D. GIST, Amarillo.

To New York City, Bellevue Hospital, for instruction and on completion *to his proper station,* from Chickamauga Park, Capt. GEORGE H. STAGNER, Waco. Post-Graduate School and Hospital, for instruction in urology and dermatology, from Camp Lee, Lieut. RALEIGH L. DAVIS, Big Springs.

To Philadelphia, Pa., University Hospital, for instruction and on completion *to Camp Jackson,* base hospital, from Fort Oglethorpe, Lieut. GILES A. DEASON, Ft. Worth.

To Southern Department, for assignment to duty, Capts. FOSTER R. WINN, Alvin; CLARENCE S. BROWN, Garland; Lieuts. ERNEST W. NITSCHE, Dallas; MARCUS P. SMART, Eddy; THADDIUS K. JONES, Henrietta; JAMES R. DICKSON, Marshall; JOHN W. McMAHON, Mineral; MARSHALL A. RAMSDELL, Santa Anna; OZRA W. CUNNINGHAM, Valley View.

To Waco, Texas, Rich Field, Signal Corps Aviation School, for duty, Lieut. ELMORE G. BRITTAIN, Dallas.

To his home and honorably discharged, Lieut. ROBINSON H. SALMON, Maypearl.

Utah

To Pittsburgh, Pa., for instruction and on completion *to Camp Meade,* base hospital, from Fort Riley, Lieut. JAMES M. GRAHAM, Fruita.

To Waco, Texas, Rich Field, Signal Corps Aviation School, for duty, Lieut. RAY T. WOOLSEY, Salt Lake City.

Vermont

To Camp Devens, Ayer, Mass., as orthopedic surgeon, from Harvard Medical School, Capt. HARRY L. FROST, Williston.

To Camp Upton, L. I., N. Y., as orthopedic surgeon, from Army Medical School, Lieut. JOHN D. THOMAS, Burlington.

To Fort Oglethorpe for instruction, Lieut. ALBION A. CROSS, Williamstown.

To New York City, Bellevue Hospital, for instruction, and on completion *to Camp Upton,* base hospital, from Fort Oglethorpe, Lieut. WINDSOR DeF. BOWEN, Saxton's River.

Virginia

To Army Medical School for instruction in orthopedic surgery, Lieut. Arthur Hooks, Blackstone; from Fort Oglethorpe, Lieut. CHARLES E. LLEWELLYN, Richmond.

To Camp Dodge, Des Moines, Ia., as orthopedic surgeon, from Camp Devens, Lieut. PERCY E. DUGGINS, Norfolk.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from Fort Oglethorpe, Lieut. THOMAS J. KAGEY, Newport News.

To Camp Pike, Little Rock, Ark., base hospital, Lieut. WILLIAM F. WILLIAMSON, Richmond.

To Camp Upton, L. I., N. Y., as orthopedic surgeon, from Army Medical School, Lieut. FREDERICK P. SUTHERLAND, Roanoke.

To Rochester, N. Y., Rochester General Hospital, for duty, from Fort Oglethorpe, Lieut. LAWTHER J. WHITEHEAD, Richmond.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School,* for duty, Capt. EDWARD L. FLANAGAN, Fairfax; Lieut. CLIFFORD A. FOLKES, Roanoke.

To his home and honorably discharged on account of physical disability existing prior to entrance into the service, Capt. RALPH W. BROWN, Roanoke.

Washington

To Camp Sheridan, Montgomery, Ala., for duty, from Fort Riley, Lieut. WALTER A. BURG, Uniontown.

To Cleveland, Ohio, for instruction, and on completion *to Camp Grant,* base hospital, from Fort Riley, Lieut. GEORGE I. HURLEY, Hoquiam.

To Portland, Ore., for duty, Capts. SPENCER B. HOWE, Bellingham; HARRY P. FINDLEY, Everett; DOUGLAS McINTYRE, St. John; Lieuts. LEON L. GOODNOW, Aberdeen; FRANK J. BICKFORD, Centralia; FRANK A. BRYANT, Colfax; JOHN HIETT, Ione; EDWARD W. COX, Monroe; ERTIE C. LANTER, CONSTANTIN J. LAPIDEWSKY, Seattle; JOSEPH HEHIR, Sedro-Wooley; ROBERT H. FARLEY, Spokane; JAMES D. COUCHE, Twisp.

To his home and honorably discharged on account of physical disability existing prior to entrance into the service, Capt. EDMUND S. WEST, North Yakima. *To his home* and honorably discharged, Lieut. WALTER R. JOHNSON, Chehalis.

West Virginia

To Camp A. A. Humphries, Accotink, Va., for duty, from Fort Oglethorpe, Lieut. CHARLES L. MOORE, Upper Fract.

To Camp Pike, Little Rock Ark., as orthopedic surgeon in the camp, from Camp Pike, Lieut. EMERSON MEGRAIL, Wheeling.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Camp Sherman, Major RAWLEY N. POWELL, Ellsins.

To Fort Oglethorpe for instruction, Lieut. EARL B. HANSON, Charleston. Provisional base hospital, Lieut. JOHN R. KEESEE, Wayne.

To New York City, Bellevue Hospital for instruction, and on completion *to Camp Taylor,* base hospital, from Fort Oglethorpe, Lieut. JULIUS C. SCHULTZ, Huntington.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School,* from Fort Oglethorpe, Lieut. WM. C. SLUSHER, Bluefield.

Wisconsin

To Camp Grant, Rockford, Ill., base hospital, Lieut. EMMETT W. BOWEN, Watertown.

To Camp Wheeler, Macon, Ga., for inspection, and on completion *to his proper station,* Major NELSON M. BLACK, Milwaukee.

To Cleveland, Ohio, for instruction, and on completion *to Camp Pike,* base hospital, from Fort Riley, Capt. RODERICK S. ELLIOTT, Milwaukee.

To Fort Oglethorpe for instruction, from Philadelphia, Lieut. BERNARD O. BENDIXEN, Kewaskum.

To Fort Riley for instruction, Capt. CONRAD W. WILKOWSKI, Chippewa Falls; Lieut. EDWARD H. FISCHER, National Home.

To Rockefeller Institute for instruction and on completion *to Camp Hancock,* base hospital, from Fort Oglethorpe, Lieut. HAROLD A. BACHMANN, Sheboygan.

To Williamsbridge, N. Y., for temporary duty, from Philadelphia, Lieut. MERRITT LaC. JONES, Wausau.

To their homes and honorably discharged on account of physical disability existing prior to entrance into the service, Capt. IRVING A. MYERS, Cottage Grove; Lieut. THOMAS J. McCRORY, Racine.

Wyoming

To Camp Pike, Little Rock, base hospital, Lieut. MICHAEL M. CODY, Superior.

To report by wire to the Commanding-General, Western Department for assignment to duty, Lieut. CLAUDE A. HARMON, Upton.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Sanitary Inspection Discontinued.—The active work of sanitary inspection in Little Rock which had been carried on under the supervision of the United States Public Health Service was discontinued, January 23, on account of the failure of the city council to appropriate funds for the continuance of the work.

Personal.—Dr. Frederic C. Rowell has been appointed health officer of Pine Bluff.——Dr. Leon M. Mooney, Mountain Home, fell while hunting, February 2, fracturing his right arm.——Dr. George M. Converse, United States Public Health Service, was the guest of honor at the meeting of the Lions' Club, held at Little Rock, January 21.

Isolation Hospital for Little Rock.—As the result of a conference between the board of trustees of the University of Arkansas with the state and city officials, it is announced that three wards of the old medical school building in Little Rock will be equipped as an isolation hospital. The state has agreed to appropriate $6,000 for the support of this institution.

Meningitis.—February 18, it was reported from Little Rock that the meningitis situation in that city was well in hand, according to a report given by Dr. Claude C. Pierce, San Francisco, of the United States Public Health Service, who had been sent to investigate this epidemic. There had been twenty-nine cases since November 26, only three of which were secondary. All druggists, it was said, had been asked to cooperate by not selling any "patent medicines" for the cure of any infectious diseases.

INDIANA

Unit Assembled.—Hospital Unit I from Madison County, commanded by Major John B. Fattic, Anderson, with eleven medical officers and forty-eight enlisted men has been mobilized at Fort McPherson, Atlanta, Ga.

New Antituberculosis Officers.—At the fifth annual meeting of the Marion County Medical Society for the Prevention of Tuberculosis, held in Indianapolis, February 21, a report of Sunnyside Sanatorium was presented and an outline of the activities for the coming year was given by Dr. William F. King, Indianapolis, assistant secretary of the state board of health. Dr. Alfred Henry, Indianapolis, was reelected president, and Drs. Charles J. Kneer, Oaklandon, George H. McCaskey, West Newton; Edward M. Amos, Indianapolis; Arthur L. Barnes, Southport, Ernest O. Asher, New Augusta; Jeremiah A. Swails, Action; Charles J. McIntosh, Indianapolis; Mrs. J. C. McCain, Ben Davis, and Mrs. F. W. Wiese, Cumberland, were elected township vice presidents.

ILLINOIS

Chicago

Meeting of Internists.—At the twenty-second regular meeting of the Chicago Society of Internal Medicine held, February 25, the essayist was Dr. H. Gideon Wells, who spoke on "The Medical Aspect of Plague and Famine as Seen in Russia."

Personal.—Dr. Harry D. Orr, who has been director of ambulance trains at Camp Logan, Houston, Texas, has been promoted to the rank of lieutenant-colonel, M. C., N. A., and placed in command of the One Hundred and Eighth Sanitary Train.——Major Robert J. Gay has been promoted from the command of Field Hospital No. 131 to the directorship of ambulance trains.——Major Daniel W. Rogers, surgeon of the One Hundred and Thirty-Fourth Illinois Field Artillery, has been relieved from command of ambulance trains and placed in charge of Field Hospital No. 131.——Dr. Clement J. Cullen, Oak Park, suffered a cerebral hemorrhage while in his office, February 22, and is reported to be in a critical condition.——Dr. Brown Pusey was operated on recently at St. Luke's Hospital for gallstones, and is convalescing uneventfully.

MARYLAND

Appropriation for Psychopathic Building.—The governor has approved of an appropriation of $80,000 for the equipment of the Spring Grove psychopathic building at Catonsville, which has been offered to the government to be used for the care of soldiers suffering from nervous and mental disorders.

Billings in Baltimore.—Major Frank Billings, Chicago, medical aid to Provost-Marshal-General Crowder, addressed the medical advisory boards, local boards and district boards of the state at Osler Hall, Baltimore, February 12, and explained the new regulations for the physical examination of registrants. The address was followed by a conference.

Additional Patients at Fort McHenry.—Two hundred and forty-nine more patients have arrived at the United States Army General Hospital No. 2, at Fort McHenry, Baltimore. Seventeen men are from overseas and the remainder are from northern army camps. None of the men are wounded. They are suffering mainly from heart trouble and, in a large majority of cases, the patients have been in the same condition for years. The new detachment makes a total of 402 patients now under treatment at Fort McHenry.

Mortality from Pneumonia.—The highest mortality from pneumonia in the history of the health department of Baltimore was reported for the week ending February 16, during which there were 78 deaths from the disease. The next highest record was for a week in January, 1916, when 73 persons died from pneumonia. Deaths in the city from all causes totaled 317, as compared with 246 in 1917, 207 in 1916, and 190 in 1915. During that week there were reported to the department 112 cases of pneumonia. Of these 65 were lobar and 47 bronchopneumonia.

Meetings.—At a meeting of the Baltimore County Medical Association held at the medical and chirurgical faculty building, Baltimore, February 20, resolutions were passed approving two bills that are pending in Congress, which will increase the rank of the members of the Medical Reserve Corps. After a business session, Dr. John H. Crum of Detroit, Mich., gave an illustrated talk on diphtheria. Dr. J. Percy Wade, Catonsville, is president of the association and Dr. Samuel J. Fort, Catonsville, is secretary.——At a meeting of the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland, held, February 26, in Oslear Hall, Baltimore, Major Pearce Bailey, of the Surgeon-General's Office, Washington, D. C., spoke on "Voltaire."

Personal.—Dr. Thomas H. Brayshaw, Glenburnie, Md., one of the best known physicians of Anne Arundel County, is seriously ill at his home, suffering from an attack of pneumonia. His condition is regarded as serious.——Dr. William S. Baer, Baltimore, who went to France last June as a member of the Johns Hopkins Base Hospital Unit, with the rank of major in the Medical Reserve Corps, is soon to be made a lieutenant-colonel of the National Army, according to an announcement recently made at the headquarters of the Army Medical Corps in Washington, D. C.——Dr. John M. T. Finney, head of the Johns Hopkins Base Hospital Unit, now holds the position of medical director, with the rank of lieutenant-colonel.——Dr. Michael J. Egan, of St. Joseph's Hospital, Baltimore, has left for New York, where he will take a three months' training course in neurologic surgery before going to France.——Dr. Kenneth J. McCullough, Baltimore, assistant surgeon at the Sparrows Point plant of the Bethlehem Steel Company, has resigned to accept a position as assistant surgeon of the Atlantic Coast Line. Dr. S. F. Hundley will succeed Dr. McCullough at Sparrows Point.——Dr. Mary F. Shedwick Bailey, Philadelphia, has been appointed an assistant in the bacteriologic laboratory of the Baltimore City Health Department.——Dr. Arthur P. Herring, Baltimore, secretary of the state lunacy commission, has been commissioned a captain in the Medical Reserve Corps and is now stationed at the United States Army General Hospital No. 2 at Fort McHenry, Baltimore, where he is in charge of the psychiatric work.

MINNESOTA

Dr. Rowntree Operated On.—Dr. L. G. Rowntree, the head of the Department of Medicine of the University of Minnesota, was operated on at the Mayo Clinic at Rochester, March 6, the operation revealing a rather serious subacute perforating ulcer of the duodenum, with hemorrhage.

NEW JERSEY

Newark Health Department News.—The monthly bulletin of the health department of Newark for February announces that a narcotic clinic for the study and treatment of drug addicts has been established in the city dispensary, and that a considerable number of such persons have applied for

treatment. The general plan of treatment includes rapid reduction in dose, substitution of a milder narcotic, stimulation of cellular activity, dilution of the toxic agents, and elimination, with encouragement.

NEW YORK

Personal.—Major Michael J. Thornton, formerly of Albany, who has been on duty with the British troops for several months, has been transferred to the American forces.——Dr. John H. Hamilton, Albany, has been appointed state epidemiologist of Iowa, succeeding Dr. Mark F. Boyd, resigned.

Naval Hospital at Pelham Bay Park.—A base hospital adjoining the naval encampment at Pelham Bay Park is in the process of construction. The hospital is to be similar to Base Hospital No. 1 on Gun Hill Road, the Bronx, and will accommodate about 2,000 patients. The hospital is to be used as a general hospital for the United States Navy.

Support Owen-Dyer Bill.—The New York State committee of the medical section of the Council of National Defense, of which Dr. George D. Stewart is chairman, is taking active measures to support the legislation recently introduced in Congress aiming to correct the inequitable situation whereby medical officers of the Navy are eligible to more advanced rank that those of the Army, in which a far smaller proportion of medical officers than line officers are eligible for advanced rank. The committee has written a letter to all the medical organizations of the state urging them to send to the New York State senators and representatives in Congress resolutions endorsing this legislation.

State Board of Drug Control.—The Whitney drug addiction committee presented its report to the legislature, March 1, recommending the establishment of a board of drug control within the state department of health. The plan presented provides for the appointment of a drug commissioner with such administrative powers as will enable him in cooperation with the federal internal revenue bureau to utilize as far as possible the information obtained by federal agents and inspectors. The drug commissioner is to have power to make rules and regulations for the control of the drug traffic. Under the plan provision will be made for the registration of all dealers in narcotics, as well as physicians and veterinarians, and for the inspection of all institutions treating drug addicts. According to estimates furnished by the committee, from 2 to 5 per cent. of the population of New York City are drug addicts, and a larger percentage is found in smaller cities and rural communities. The committee has also found that the use of narcotics is greatly on the increase.

New York City

Medical Unit for Palestine.—A gift of $100,000 has been announced by the joint distribution committee of the American Jewish Relief Committee for the medical unit of Hadassah, which will leave for Palestine within a few weeks. The British government will cooperate in assuring a safe and speedy transportation of the medical unit.

Academy Activities.—At a meeting of the New York Academy of Medicine, to be held, March 13, under the auspices of the public health committee, Dr. James Alexander Miller, who has recently returned from France, will deliver a lecture illustrated by lantern slides, on "Health Conditions in France, and America's Effort to Aid Them."

Personal.—Dr. Leo Buerger has been appointed professor of genito-urinary diseases in the New York Polyclinic Medical School and Hospital.——Dr. George Gray Ward, Jr., has been appointed chief surgeon and surgical director of the Woman's Hospital in the State of New York, succeeding Dr. Clement Cleveland, resigned.——Dr. Arthur J. O'Leary has been appointed assistant sanitary superintendent of the department of health for the Bronx.

More Rockefeller Gifts.—At its annual meeting, March 1, the Rockefeller Foundation announced that an additional $187,281 has been appropriated for war work. Of this sum $125,000 is for the purpose of continuing the war demonstration hospital of the Rockefeller Institute, $50,000 is for the medical division of the national research council of the Council of National Defense, and $12,281 for other medical war research and relief work. Among the members of the executive committee for the year 1918 are Drs. George E. Vincent and Simon Flexner. Dr. Hermann M. Biggs was elected a member of the international health board of the foundation.

Diagnostic Laboratories Must Keep Records.—The department of health has adopted regulations relating to the records to be kept by laboratories offering facilities for the diagnosis of contagious diseases. These regulations require that the person in charge of the laboratory shall cause a record to be kept wherein shall be entered the following information: the laboratory number and date of the receipt of every specimen to be tested to determine the presence of communicable disease, and the result of the laboratory test. The department of health may, at its discretion, require every such laboratory to furnish a statistical report covering a stated period and embodying the foregoing specified information.

NORTH CAROLINA

Personal.—Dr. Franklin H. Lackey, Fallston, is reported seriously ill with septicemia at a hospital in Lincolnton.——Dr. May S. Miles, Greensboro, has been elected president of the Guilford County Medical Society.

Physicians Found Guilty of Violating State Law.—It is reported that Drs. William P. S. Webb, Rockingham, and Robert T. Upchurch, Henderson, have been found guilty of violating the state statistics law by failing to report births occurring in their practice.

Unit O to be Equipped.—The Mecklenburg County Medical Society and the local chapter of the American Red Cross have undertaken to raise $15,000 to equip Unit O, which recently left Charlotte in command of Major Addison G. Brenizer, for preliminary training.

Tuberculosis Clinic Opens.—A free tuberculosis clinic was opened at Charlotte at the city auditorium, January 29, under the auspices of the city health department and the United States Public Health Service. Acting Asst. James A. Keiger, of the United States Public Health Service, is in charge of the clinic, which will be open at 2:30 p. m., Tuesdays and Fridays of each week.

Standardization of Hospitals.—A joint session of committees from the Medical Society of the State of North Carolina, and the North Carolina State Nurses' Association met in Greensboro, February 14, to confer on the standardization of the hospitals of the state, and on the possible establishment of a North Carolina Hospital Association as a component of the National Hospital Association. The state society was represented by Dr. Jacob F. Highsmith, Fayetteville; Henry F. Long, Statesville, and Major John T. Burrus, High Point.

OHIO

Hospital Notes.—The Kings Daughters Hospital has been incorporated at Ashland.——Dr. Curtiss Ginn, Dayton, has been named a member of the board of trustees of the Miami Valley Hospital, Dayton, succeeding Dr. Harry E. Palmer.

Medical Building for Columbus.—Drs. William D. Inglis, E. H. Ryan, Charles S. Means and Yeatman Wardlow have taken a lease on the property of Dr. Theodore W. Rankin and will erect on this site a building to contain fourteen suites of offices for physicians and dentists.

New Academy Officers.—At the annual meeting of the Dayton Academy, January 25, it was voted to continue the organization and the following officers were elected: president, Dr. Howard V. Dutrow; vice president, Dr. Rufus C. Pennywitt; secretary, Dr. Edgar L. Braunlin, and treasurer, Dr. John D. Fouts.

Dr. King Addresses Academy.—Dr. F. Truby King, president of the Royal New Zealand Society for the Health of Women and Children, spoke at an open meeting of the Academy of Medicine of Cleveland, held in the council chamber of the city hall, February 8, on "The Responsibility of the Municipality for the Welfare of Its Mothers and Children."

New Medical College Building Dedicated.—The new building of the University of Cincinnati College of Medicine was dedicated, February 25, the principal speakers being Major Christian R. Holmes, dean, and Dr. Henry S. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching. The new medical building was erected and equipped at a total cost of approximately $600,000.

Enlisted Reserve Corps.—Dr. F. C. Waite, Cleveland, has been called to Washington, D. C., to assist Major Horace D. Arnold, M. R. C., in the new division of the Surgeon-General's Office, which is to have charge of the medical, dental and veterinary students who, under the selective service act, have been enlisted in the Medical Reserve Corps and placed on the inactive list, pending the completion of their education. Any student who does not make satisfactory progress will be dropped from the reserve list and become eligible for active service. The division is also to have oversight of the schools in which these men are studying and to determine which schools are satisfactorily equipped for professional training.

Personal.—Dr. John G. Wishard, Wooster, was elected president of the Union Medical Association of the sixth councillor district at its meeting held in Canton, February 19.——Dr. John E. Sylvester, Wellston, while going over a grade crossing near Wellston in his automobile was struck by a train and suffered a fractured rib and severe injuries and contusions.——Dr. James G. Alcorn, Columbus, who has been doing relief work in Belgium for six months returned to Columbus, February 10.——The residence of Dr. Granville Reynard, Union City, was damaged by fire to the extent of $2,800, February 4.——Dr. Pinckney D. Shriner has been elected president of the Columbus Board of Health.——Dr. Mark D. Godfrey, Columbus, has been appointed district physician to succeed Dr. Michael A. Bartley, deceased.——Dr. Thurman R. Fletcher, Columbus, has been made chief of the state industrial commission, as the successor of Dr. William H. White.——Dr. Dan M. McDonald, chief surgeon of the Firestone Tire and Rubber Company, Akron, has been made medical director of the company.

PENNSYLVANIA

Reception to Medical Officers.—The physicians and nurses at the state hospital, Fountain Springs, held a reception, February 8, in honor of five members who have entered the military service.——The Lackawanna County Medical Society held a patriotic meeting at Scranton, at which a service flag with fifty stars was unfurled.——At a meeting of the Westmoreland County Medical Society at Greensburg, February 5, Dr. Ida E. Blackburn presented a service flag in recognition of the forty members who have gone into the military service.

Personal.—Dr. George H. Seaks, Gettysburg, had a narrow escape from drowning, February 20, while crossing a flooded creek in his automobile.——Dr. Lucius M. Elsinger, Scranton, has been made physician of the Lackawanna County Jail, succeeding Dr. Samuel P. Longstreet, resigned.——Dr. Roger P. Batchelor has assumed his duties as superintendent of the Palmerton Hospital, succeeding the late Dr. John W. Luther.——Lieut. George S. Condit, who was recently wounded in France, has returned to his home in Warren, invalided.

Philadelphia

Personal.—Police Surg. Leon F. Luburg, while on his way to answer a sick call, discovered a fire in a building on Vine Street, and roused the occupants, who escaped without casualty.——Dr. Francis L. Hughes heads the eligible list for the position of supervising medical inspector of the bureau of health.

Course in Neurologic Surgery at Philadelphia.—A third course in neurologic surgery for medical reserve officers to be given under direction of the Surgeon-General's Office has been started in Philadelphia, and is now being conducted at the Jefferson, Philadelphia General and University hospitals. It covers ten weeks, with thirty-one hours of work a week, and includes demonstrations, lectures, clinics and quizzes. Operative clinics are held eight hours a week at the University and Jefferson Hospitals, and special lectures by authorities from other cities are arranged for from time to time. The teaching staff includes Drs. Charles W. Burr, John Chalmers DaCosta, John B. Deaver, G. M. Dorrance, E. L. Eliason, George Fetterolf, Lewis Fisher, Charles H. Frazier, T. B. Holloway, Chevalier Jackson, John A. Kolmer, Paul A. Lewis, James H. Lloyd, S. DeW. Ludlum, D. J. McCarthy, J. W. McConnell, R. Tait McKenzie, Charles K. Mills, George P. Muller, H. K. Pancoast, George A. Piersol, Charles S. Potts, William C. Posey, B. Alexander Randall, William G. Spiller, B. A. Thomas, T. T. Thomas, T. H. Weisenburg, Andrew H. Woods, William Zentmayer, Majors Thomas Johnson and George M. Piersol, and Capt. Laurence Selling, Portland, Ore. Among the student officers are Majors Lomax Gwathmey, Norfolk, Va.; Robert M. Howard, Oklahoma City, and Carl W. Ney, New Orleans; Capts. F. W. Brodrick, Sterling, Ill.; Andrew F. McBride, Paterson, N. J.; George E. Maurer, New York City; Robert A. Noble, Bloomington, Ill.; Grover C. Penberthy, Detroit; Joseph E. Pirrung, Cincinnati; John W. Price, Jr., Louisville, Ky.; Jacob H. Shuford, Hickory, N. C.; Walter B. Turner, Youngstown, Ohio; Otto E. Utzinger, Astoria, Ore; Walter E. Whitney, Bangor, Me., and Benjamin F. Zimmerman, Louisville, Ky.; Lieuts. James B. Ayer, Boston; John Alexander, John H. Arnett, Philadelphia; Frank R. Bailey, Pittsburgh; Robin C. Buerki, Madison, Wis.; William C. Chaney, Chaney, Md.; Thomas A. Clay, Paterson, N. J.; Leo J. Dretzka, Detroit; Lonnie M. Grove, Tuscaloosa, Ala.; Carl B. Hudson, Boston; Tom R. Knowles, Colorado Springs, Colo.; L. H. Landon, Pittsburgh; E. H. Lenderman, Wilmington, Del.; Horace P. Routh, Little Rock, Ark., and Samuel B. Sturgis, Lenoir, N. C.

The director of the School of Neurological Surgery is Dr. Charles H. Frazier, and the adjutant is Capt. Thomas M. Joyce, Portland, Ore. Its headquarters are located at the University Hospital.

CANADA

Personal.—Lieut.-Col. Kenneth Douglas Panton, formerly city physician of Vancouver, B. C., who went to France with one of the earliest contingents from British Columbia, served for some time in field ambulance work, and then in base hospitals and was later placed in charge of Canadian General Hospital No. 5, Saloniki, has been sent to England in charge of Canadian General Hospital No. 14, Meads, Eastbourne.

GENERAL

Tuberculosis Congress Founder Dies.—Clark Bell, president of the Medico-Legal Society of New York for sixteen terms, and for the last twenty-five years editor and publisher of the *Medico-Legal Journal;* the founder of the American Congress on Tuberculosis, died suddenly in the Union League Club, New York City, February 22, from heart disease.

Hospital Treatment of Seamen.—By a bill which passed the Senate, February 5, seamen on all vessels belonging to and used in the service of the United States or any department or branch thereof, whose care and medical treatment are not otherwise provided for by the government, shall be entitled to such privileges of care and treatment as are now accorded to the seamen on documented vessels of the United States.

Tri-State Physicians Meet.—The annual meeting of the Tri-State Medical Society of Virginia and the Carolinas was held in Charleston, S. C., February 20 and 21, and the following officers were elected: president, Dr. Robert S. Cathcart, Charleston, S. C.; vice presidents, Drs. Douglas Vanderhoof, Richmond, Va.; Lester A. Crowell, Lincolnton, N. C., and Francis A. Coward, Columbia, S. C., and secretary-treasurer, Dr. Rolfe E. Hughes, Laurens, S. C., reelected for a sixteenth term. Richmond was selected as the place of meeting for 1919.

Bequests and Donations.—The following bequests and donations have recently been announced:

Mt. Sinai Hospital, Montefiore Home, Hebrew Orphan Asylum and Stony Wald Sanatorium, New York City, each $1,000; Hospital for Deformities and Joint Diseases, and Society for the Relief of Cripples, New York, each $500, by the will of Rosalie Kaufman.

St. Rose's Home for Consumptives, and Molly Fancher Memorial for Cripples, New York City, each $1,000, by the will of Florence Starr.

Society for the Relief of Respectable Aged Women and Baptist Home Society, Newark, N. J., each $12,500 by the will of Aula S. Bailey.

Hygienic Institute, La Salle, Ill., $350,000 by the will of F. W. Matthiessen, LaSalle.

St. Elizabeth's Hospital, Dayton, O., $3,000 by the will of Mrs. Emily Plattfaut.

For an antituberculosis camp for negroes in Louisiana, a donation of $1,000 by Miss Kate Gordon.

FOREIGN

Scotch Physician Dies.—Dr. Elsie Maude Ingles, L.R.C.P. (Edin.), L.F.P.S. (Glas.), 1892; M.B.C.M. (Edin.), 1899; head of the Scottish hospital in Serbia, died recently in England as a result of hardships sustained in line of duty with the Serbian troops.

Retirement of Luciani.—Professor Luigi Luciani, of the chair of physiology at the University of Rome, retires this semester, having reached the age limit. He has been a member of the senate, of the national board of public instruction, and of many scientific societies. The Neurologic Society of London elected him to the place left vacant by the death of Brown-Sequard. His main fields of research have been the topography of the cerebellum and other parts of the brain, and the physiology of alimentation.

Cortezo Elected to Spanish Academy.—The editor of the *Siglo Medico* of Madrid, C. M. Cortezo, who has filled many high public positions, was recently elected a member of the national academy which has charge of the Spanish language, the Real Academia Española de Lengua. This is regarded as a tribute to the medical profession in general and also to the medical press as well as to Cortezo himself. In Spain and France, spelling and pronunciation are not left to indi-

vidual initiative, but are decided by the official board, the language academy.

Osiris Prize to Be Awarded in 1918.—The Institut de France has decided to award the Osiris prize, representing about $20,000 (100,000 francs) to the author of the most remarkable discovery or work in the sciences, belles lettres, arts or industry, in other words, everything that touches the interests of the public. Since this prize was established by the Paris philanthropist, Osiris, it has been given to Roux, of the Pasteur Institute, for his work on diphtheria antitoxin, to Albert Sorel, to Blériot and Voisin for their contributions to the science of aviation, and, the last time, it was divided among Widal, Chantemesse and Vincent for their work on vaccination against typhoid.

Deaths in the Profession Abroad.—**J. S. Cameron** of Leeds, England, aged 73, a pioneer in public health work.——**T. F. Ricketts** of London, aged 54, whose profusely illustrated "Diagnosis of Smallpox," based on fifteen years of study, threw much light on that previously dark field.——**Sir George H. Philipson,** aged 82, professor of medicine for fifty years at the College of Medicine, Newcastle-on-Tyne, and vice chancellor of the University of Durham. In 1893 he was president of the British Medical Association.——**E. Bozzi,** professor of surgical pathology at the University of Genoa, aged 54, author of important works on the liver and kidneys.——**G. Weiss,** professor of general pathology at the University of Messina.——**G. A. Petrone,** aged 44, instructor in pediatrics at the University of Naples.

PARIS LETTER

Paris, Feb. 7, 1918.

Mechanism of Shock

At one of the recent meetings of the Academy of Sciences, Dr. Marage discussed the grave phenomena observed among soldiers as the result of the explosion of large shells. He said that while there was no apparent lesion, the wounded presented the following symptoms, all of which might be present in any one patient: loss of memory, of equilibrium, of vision, of hearing and of speech. These symptoms disappear gradually in from six to eight weeks, or they may persist for years, and unless treated, they may become permanent. Marage explains these symptoms as being due to the effects produced by the high explosives employed in this war. It is known that the velocity of the sound wave is 333 meters per second under the atmospheric pressure; but in the neighborhood of an exploding shell the speed of the shock wave may be as great as 2,000 meters per second, a velocity happily attenuated very quickly, for even at 60 meters the velocity becomes merely that of sound. But in that danger zone of 60 meters, the pressure is increased as high, even, as 200 kilograms to the square centimeter, but this pressure lasts only 1 or 2 hundredths of a second. Furthermore, in the danger zone the increase of pressure is not uniform, and in the zone of action there may be dead sectors. The intensity of these zones of action is unequal, being stronger toward the sides than toward the front and rear. This explains why soldiers in the same zone present extremely variable central lesions. Under the influence of this enormous increase in pressure, the blood is forcibly driven toward the center, hence toward the brain. This sudden tidal wave of blood would be always fatal if the capillaries by their resistance did not check it somewhat. Marage concludes from this that it is not by any means always the middle ear which is the cause of war deafness, but that the whole body surface is responsible. The ear protectors are very useful in certain cases, but unfortunately they do not protect against this kind of deafness.

Extraction of a Machine Gun Bullet from the Wall of the Heart

Dr. Hartmann, professeur de clinique chirurgicale à la Faculté de médecine and chirurgien des hôpitaux, recently reported to the Academy of Medicine a new case of a projectile embedded in the wall of the heart and which was extracted successfully. This foreign body gave rise to the following alarming symptoms: precordial pain, palpitation, and arrest of the heart action with the sensation of imminent death, all these symptoms occurring especially during the night. Roentgenoscopy showed a bullet lodged in the wall of the right ventricle. Two ribs were resected, the pleura and pericardium were opened and the projectile was extracted. Immediately all of the symptoms disappeared and the patient made a very speedy recovery with only a slight increase in frequency of the pulse, 80 to 90 per minute.

Resignation of Monsieur Justin Godart

Monsieur Godart, the undersecretary of state for the army medical department, recently presented his resignation to the Chamber of Deputies as the result of an interpellation. He had been summoned to explain the case of a soldier who was illegally acting as a medical officer. Monsieur Godart requested a postponement of the case until the investigation under way at the time by the war department had been concluded, but the Chamber would not accede to this request and, therefore, Monsieur Godart felt obliged to resign. The cabinet designated as his successor Dr. Mourier, deputy from the department of the Gard.

Medical Victim of an Aerial Bombardment in Paris

Among the many victims of the bombardment of Paris during the night of January 30-31 by German aviators, was Dr. Salmon, formerly member of the Paris City Council. Dr. Salmon was just leaving his house with the intention of going to the assistance of the wounded. He had just stepped across the threshold when the concussion from the explosion of a bomb falling in the vicinity wrecked the door and threw it on the doctor who was partly crushed. He was conveyed to a hospital at once but died on arriving there.

The Bread Card

As stated in a previous letter, a bread card has been instituted. This food restriction was only intended to be observed up to Jan. 29, 1918, but the daily ration has now been diminished. It is henceforth fixed at 300 gm. per person without distinction of sex, age, profession or financial standing. The new régime is applicable to Paris and all of the communities situated within a radius of 25 kilometers. After March 1, the regulation will become national in scope.

Foundation of Medical School in French Africa

The Official Journal has published a decree providing for the foundation of a medical school for French Africa at Dakar. This school will be under the authority of the director of the Service de Santé, inspector general of the sanitary and medical services of French West Africa, and will have for its mission the training of native physicians and midwives. The construction and organization of this school shall be, according to the decree, undertaken at once by the governor general so that the necessary funds will be forthcoming as provided for by this law.

Death of Dr. César Allemand

We are advised of the death of Dr. César Allemand, formerly senator of the department of the Basses-Alpes. The doctor was 71 years of age.

LONDON LETTER

London, Feb. 5, 1918.

Mobilization of the Medical Profession in New Zealand

The New Zealand Branch of the British Medical Association is asking for a mobilization of the whole medical profession, including every member on the register. In view of the fact that the requirements of the military authority are depleting the ranks of the civil profession, it is suggested that the advisory board should have control in a military sense over every physician. When medical officers are required for the army medical corps, or physicians are needed for civil practice, the minister for defense or the minister for public health, as the case might be, would apply to the advisory board for the number of physicians needed. The government would render itself liable for the remuneration, not only of those taken for military service, but also for those sent to districts in the dominion in need of a physician. It is requested that an income of $3,000 a year with $1,250 a year for motor car, drugs and other expenses should be guaranteed. If the physician earned this sum, no claim would be made from the government.

Refusal of Direct Representation of the Medical Corps on the Army Council

It may be remembered that the late director-general of the army medical service, Sir Alfred Keogh, advocated in vain the representation on the army council of the army medical corps. In the House of Commons, Major D. Davies has asked whether in view of the resignation of Sir Alfred Keogh and the appointment of his successor, the secretary of state for war was now prepared to reconsider the question of direct representation on the army council of the Royal Army

Medical Corps, thus raising the status of the army medical service to the position accorded to it in the military organization of our allies. The undersecretary of state for war replied that it is not intended to place the director-general of the army medical service on the army council; but whenever matters affecting medical organization or administration are before the council, the director-general will be called in to give the council the benefit of his advice.

Call for Medical Students

The deans of the leading hospitals have summoned meetings of medical students to put before them the request from the authorities of an additional 400 students every six months for service with the army and navy. Those required are "fourth-year men," who are to act as surgeon probationers. The students, many of them who wish to serve, point out, however, that the interruption of their studies would throw them back greatly—a consideration when parents are struggling professional men—but it is hinted that should the necessary quota not be forthcoming, the authorities will conscript the men who hold back.

Increase of Medical Fees

The increased cost of living, which as regards the necessities of life is doubled, has led physicians in various parts of the country, but not universally, to increase their fees. The physicians of Wimbledon, an important London suburb, have unanimously agreed that, owing to the increased cost of living and the still greater increase in the cost of conducting medical practices, there shall be a general increase in the fees charged for professional attendance and consultations, such increase to be subject to variation or remission in individual cases in which some good reason is shown. When messages arrive after a physician has left home and these entail inconvenience to other patients by compelling physicians to postpone or break appointments, it has been agreed to charge an extra fee for the special visit.

Henry Maudsley

Henry Maudsley, M.D., Lond., F.R.C.P., Lond., LL.D., Edin., a foremost writer on the physiology and pathology of the mind, has died in his eighty-third year. One of his first appointments was that of resident physician to the Manchester Royal Lunatic Hospital in 1859. In 1864 he came to London and was appointed physician to the West London Hospital, and in 1869 professor of medical jurisprudence at University College. From an early period he devoted himself to literary work, and in 1862 became editor of *Mental Science*. His first important publication was his Goulstonian Lectures on the "Relations Between Body and Mind, and Between Mental and Other Diseases of the Nervous System." Other works followed which soon became standard: "Responsibility in Mental Disease" (1874), "Physiology of Mind" (1876), "Pathology of Mind" (1879), "Body and Will" (1883), "Natural Causes and Supernatural Seemings" (1887), "Life in Mind and Conduct" (1902), "Studies of Organic and Human Nature" (1903), and "Heredity, Variation and Genius" (1908). He was not only a great alienist, but also a philosopher who took a leading part in the controversy between "materialists" and "vitalists" or "spiritualists." His views were certainly materialistic. They are well summed up in his own words: "Recognizing the unity of body and mind, and viewing mind in its moral manifestations as the supreme and, so to speak, sublimated expression of vital function, it plainly appears that the study of its unsound manifestations can only become fruitful by means of a thorough and complete observation of all the bodily functions and of all their manifold disorders." Seeing the great want of a hospital for the early treatment of mental disease, he founded one in London by the munificent donation of $150,000. When the war broke out, this hospital was hastily completed. It is now used as a military hospital for the treatment of war psychoses and neuroses.

Science in the War

The staff of the Natural History Museum has been of assistance to various public departments in connection with the war. The following are examples of some of the questions which its members have been asked to answer: (1) nature of some organisms which caused blocking up of certain sea-water pipes; (2) as to some mite-infested oats at the front; (3) application of a remedy for the rice weevil in connection with the disease of beriberi; (4) as to methods of destruction of bedbugs; (5) the identification of specimens of larvae found in drinking water; (6) nature of wood used in the construction of a propeller of a Zeppelin brought down in this country; (7) inquiries as to certain wood stated to possess luminous properties; (8) questions arising out of the Canadian commission to consider the alleged depredations of sea lions on the Pacific coasts of North America, in connection with the fishing and canning industries; (9) identification of certain animal forms of tinned food, such as Pacific lobsters, sardines or sprats; (10) the identification of poisonous fishes in the West Indies; (11) the sponge fishery in the West Indies, and (12) the introduction of reindeer and other animals into South Georgia.

Association News

HOTEL HEADQUARTERS FOR THE CHICAGO SESSION

The following hotels have been tentatively designated as general and section headquarters for the Chicago Session, June 10 to 14:

GENERAL HEADQUARTERS: HOTEL SHERMAN, North Clark and West Randolph.

PRACTICE OF MEDICINE: Hotel Morrison, 83 West Madison.

SURGERY, GENERAL AND ABDOMINAL: Auditorium Hotel, 430 South Michigan.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY: Congress Hotel, South Michigan and Congress.

OPHTHALMOLOGY: Hotel LaSalle, LaSalle and West Madison.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Hotel LaSalle, LaSalle and West Madison.

DISEASES OF CHILDREN: Congress Hotel, South Michigan and Congress.

PHARMACOLOGY AND THERAPEUTICS: Auditorium Hotel, 430 South Michigan.

PATHOLOGY AND PHYSIOLOGY: Auditorium Hotel, 430 South Michigan.

STOMATOLOGY: Congress Hotel, South Michigan and Congress.

NERVOUS AND MENTAL DISEASES: Blackstone Hotel, South Michigan and East Seventh.

DERMATOLOGY: Blackstone Hotel, South Michigan and East Seventh.

PREVENTIVE MEDICINE AND PUBLIC HEALTH: Auditorium Hotel, 430 South Michigan.

GENITO-URINARY DISEASES: Auditorium Hotel, 430 South Michigan.

ORTHOPEDIC SURGERY: Congress Hotel, South Michigan and Congress.

GASTRO-ENTEROLOGY AND PROCTOLOGY: Auditorium Hotel, 430 South Michigan.

SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, COMMERCIAL EXHIBIT, INFORMATION BUREAU, AND BRANCH POST-OFFICE: Hotel Sherman, North Clark and West Randolph.

Marriages

LIEUT. HAROLD WILSON, M. R. C., U. S. Army, Conneaut, Ohio, on duty at Camp Sherman, Chillicothe, Ohio, to Miss Maude Kerr of Greenfield, Ohio, at Hillsboro, Ohio, February 9.

LIEUT. BENJAMIN WALTER PROVOST, M. C., U. S. Army Peru, Ill., on duty in Washington, D. C., to Miss Katherine Bell Conway of Peru, Ill., in Springfield, Mass., February 12.

MAJOR JOSEPH GAMEWELL EVANS, M. R. C., U. S. Army, Los Angeles, on duty at Fort Lawton, Seattle, to Miss Mildred Marion Hunter of Tracy, Minn., at Seattle, February 14.

HOWARD JACKSON SIMMONS, M.D., Blackfoot, Idaho, to Miss Hannah B. Lyon of Pocatello, Idaho, at Idaho Falls, Idaho, February 12.

MAXWELL KAUFMAN, M.D., Brooklyn, to Miss Celia Pearl Buchner of the Bronx, New York City, February 15.

JOSEPH A. MCGINNIS, M.D., to Miss Monica G. Bolger, both of Germantown, Philadelphia, February 12.

HENRY KELLER MOHLER, M.D., to Miss Nellie Whitely, both of Philadelphia, February 21.

SAMUEL DICKSON BARR, M.D., to Miss Julia P. Hughes, both of Boston, recently.

Deaths

William Scott Kendrick, M.D., Atlanta, Ga.; Atlanta (Ga.) Medical College, 1874; aged 75; formerly a Fellow of the American Medical Association; a member of the Medical Association of Georgia; senior professor of medicine in his alma mater; medical director of the Southern State Life Insurance Company; from 1891 to 1895 dean and professor of physical diagnosis and clinical medicine in the Atlanta Medical College; later instrumental in the consolidation of the Atlanta Medical College and the Southern Medical College as the Atlanta College of Physicians and Surgeons in 1895, and in the consolidation of the Atlanta College of Physicians and Surgeons and the Atlanta School of Medicine in 1913, as the Atlanta Medical College; died at his home, February 22.

Col. William Jerome Cronyn, M.D., M. C., Wis. N. G., Milwaukee, Wis.; University of Buffalo, N. Y., 1870; aged 69; formerly a fellow of the American Medical Association; a member of the State Medical Society of Wisconsin; formerly professor of forensic medicine and military hygiene in Milwaukee Medical College; a veteran of the Civil War; surgeon-general of the Grand Army of the Republic for New York State in 1885; for three years acting assistant surgeon in the United States Navy; formerly a member of the Dunkirk (N. Y.) Board of Education, common council and board of health; chief of the consulting staff of Milwaukee Hospital; died at his home, February 20.

William J. Whelan, M.D., Youngstown, Ohio; Northwestern University Medical School, Chicago, 1867; College of Physicians and Surgeons in the City of New York, 1875; aged 74; surgeon of U. S. Volunteers during the Civil War; one of the founders of the Youngstown City Hospital, and the last surviving member of the original staff; one of the organizers and an honorary member of the Mahoning County Medical Society; died at his home, February 19, from cardiac asthma.

Conrad Diehl, M.D., Buffalo; University of Buffalo, N. Y., 1866; aged 74; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of New York; coroner of Erie County in 1868; mayor of Buffalo from 1897 to 1902; from 1870 to 1878 major-surgeon of the Sixty-Fifth Infantry, N. G., S. N. Y.; also a druggist; died at his home, February 20, from the effects of a fall on a slippery sidewalk a week before.

Anthony George Baker, M.D., Philadelphia; Jefferson Medical College, 1887; aged 69; a member of the Medical Society of the State of Pennsylvania; a specialist in pediatrics; physician-in-chief of the Chinese Medical Dispensary, Philadelphia, since 1897; a clergyman of the Presbyterian Church from 1873 to 1877, and of the Protestant Episcopal Church from 1878 to 1887; died at his home, February 17, from pneumonia.

James G. Riddick, M.D., Norfolk, Va.; College of Physicians and Surgeons, Baltimore, 1883; aged 56; formerly a member of the Medical Society of Virginia; for ten years mayor of Norfolk; for twelve years health officer, and at the time of his death city sergeant; died at his home, February 15. At a called meeting of the Norfolk Medical Society, resolutions of sympathy and regret were unaminously adopted.

David Warman, M.D., Trenton, N. J.; Bellevue Hospital Medical College, 1862; aged 81; acting assistant surgeon, U. S. Army, during the Civil War; formerly a Fellow of the American Medical Association; one of the founders, manager and vice president of the Children's Home Society of New Jersey, and a member of the state charities aid; died at the home of his daughter at Allenhurst, N. J., February 5.

Daniel Joseph Sheehan, M.D., Spring Valley, N. Y.; Bellevue Hospital Medical College, 1884; aged 57; a Fellow of the American Medical Association; from 1899 to 1904 a member of the staff of the New York Board of Health; physician in charge of the Catholic Orphanage, Nanuet; visiting physician to St. Vincent's and St. Agatha's Home; died at his home, February 21, from pneumonia.

Edwin I. Harrington, M.D., Yonkers, N. Y.; Jefferson Medical College, 1881; aged 60; a Fellow of the American Medical Association; formerly president of the Jenkins Medical Society of West Chester County, and health commissioner of Yonkers; consulting surgeon to St. Joseph's Hospital, and consulting physician to the Home for the Aged, Yonkers; died at his home, February 23.

Alexander Dunlap Hagadorn, M.D., Lansing, Mich.; University of Michigan, Ann Arbor, 1871; aged 74; formerly a Fellow of the American Medical Association; a member of the Michigan State Medical Society; formerly president of the Bingham County Medical Society and health officer of Lansing; died at his winter home in St. Cloud, Fla., February 11.

Died in the Service

Capt. Milton Jay Lichty, M.D., M. R. C., U. S. Army, 1870-1918

(*See The Journal, Feb. 23, p. 556*)

Edward W. Heim, M.D., Buffalo; University of Buffalo, N. Y., 1900; aged 40; a member of the Medical Society of the State of New York; who sustained a fracture of the skull and crushing injuries of the chest in a collision between his automobile and a street car, February 16; died a few hours later from his injuries at the Sisters' Hospital, Buffalo.

George Henry Lathrop, M.D., Livingston Manor, N. Y.; Bellevue Hospital Medical College, 1875; aged 69; president of the Sullivan County (N. Y.) Medical Society in 1878; also a pharmacist; local surgeon of the New York, Ontario and Western Railroad; for several years town health officer; died at his home, February 15, from pneumonia.

Harry Madison Cutts, M.D., Brookline, Mass.; Harvard Medical School, 1883; aged 59; a Fellow of the American Medical Association; Medical Examiner (coroner) of Norfolk County since 1898; president of the Norfolk District Medical Society; surgeon to the Naval Brigade, M. V. M.; died at his home, February 21, from pneumonia.

LeRoy Allan Newton, M.D., Seattle; University of Pennsylvania, Philadelphia, 1895; aged 54; a Fellow of the American Medical Association; for many years a practitioner of Greenfield, Mass.; formerly chairman of the Greenfield Board of Health and a member of the Franklin County Public Hospital; died at his home, February 14.

Augustus P. Taylor, M.D., Thomasville, Ga.; New York University, New York City, 1870; aged 68; a member of the Medical Association of Georgia; chairman of the city board of health; for many years physician to the Thomasville City Hospital; a member of the state board of health since 1903; died at his home, February 16.

Charles Gustavus McManaway, M.D., Charlotte, N. C.; Kentucky School of Medicine, 1883; aged 60; formerly a member of the Medical Society of the State of North Carolina; for a quarter of a century a practitioner of Charlotte, and for several years a member of the board of aldermen; died at his home, February 15.

Arthur Julius Holmquist, M.D., Denver; Denver College of Medicine, 1897; aged 45; formerly first lieutenant, M. R. C., U. S. Army, and on duty at Fort Riley, Kan.; died at his home in Globeville, Denver, February 13, from the effect of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent.

Edward J. Norman, M.D., Eureka, Kan.; University Medical College of Kansas City, Mo., 1897; aged 44; formerly a Fellow of the American Medical Association; while driving in his automobile over a grade crossing near Eureka, Februray 18, was struck by a train, and died from his injuries four hours later.

Antranig Ayvazian, M.D., New York City; New York University, New York City, 1887; aged 66; a Fellow of the American Medical Association; medical inspector of the health department of the city of New York since 1887; died in the Polyclinic Hospital, New York City, February 13, from pneumonia.

Elbert P. Tibbals, M.D., Port Huron, Mich.; College of Physicians and Surgeons in the City of New York, 1864; aged 75; formerly a member of the Michigan State Medical Society; for many years parliament physician to the Prudent Patricians of Pompeii; also a druggist; died at his home, February 14.

Edward Page, M.D., Boston; Harvard Medical School, 1870; aged 91; a graduate of the first dental class of Harvard University; first president of the Harvard Dental Association; treasurer of the Massachusetts Dental Society for twenty years; died in the Home for Aged Men, Boston, February 9.

Frederick Childs Jones, M.D., Basking Ridge, N. J.; College of Physicians and Surgeons in the City of New York, 1877; aged 63; a Fellow of the American Medical Association, and president of the Somerset County (N. J.) Medical Society in 1916; died at his home, February 8, from pleuropneumonia.

John MacLeod Martin, M.D., Boston; McGill University, Montreal, 1889; aged 58; a Fellow of the American Medical Association; F.R.C.S. (Lond.), L.R.C.P. (Lond.); professor of clinical medicine in the College of Physicians and Surgeons, Boston; died at his home in Roxbury, Boston, February 10.

George R. Ogden, M.D., Grafton, W. Va.; Louisville and Hospital Medical College, Louisville, Ky., 1908; aged 53; formerly a Fellow of the American Medical Association; a member of the West Virginia State Medical Association; died in St. Mary's Hospital, Clarksburg, W. Va., February 16.

Lieut. Alexander Cooke Butcher, M.D., M. R. C., U. S. Army, Philadelphia; Medico-Chirurgical College of Philadelphia, 1891; on duty at Camp Lee, Georgia, formerly assistant medical inspector of the Philadelphia Bureau of Health; assigned to school work; died at his home, February 22.

Albert Homer Burket, M.D., McKee's Rocks, Pa.; Miami Medical College, Cincinnati, 1877; aged 70; a member of the Medical Society of the State of Pennsylvania; for forty years a member of the Allegheny County Medical Society; died at his home, February 12, from senile debility.

Elbridge H. King, M.D., Muscatine, Iowa; Detroit Medical College, 1870; aged 74; a Fellow of the American Medical Association; a veteran of the Civil War; local surgeon of the Chicago, Milwaukee and St. Paul system; died at his home, February 14, from lobar pneumonia.

Arthur Barrett Eustace, M.D., Chicago; Northwestern University Medical School, Chicago, 1907; aged 32; formerly a Fellow of the American Medical Association, and instructor in surgery in his alma mater; died in Phoenix, Ariz., February 19, from tuberculosis.

James Oliver, M.D., Athol, Mass.; Harvard Medical School, 1862; aged 81; a veteran of the Civil War; for five years representative in the legislature from the Athol District; for many years district medical examiner (coroner); died at his home, February 8.

John C. McGillivray, Denver (license, Colorado, 1889); aged 53; a member of the Colorado State Medical Society; for sixteen years police surgeon of Denver, and formerly assistant health commissioner; died at his home, February 11, from erysipelas.

Isaac Howard Davis, M.D., Baltimore; University of Maryland, Baltimore, 1885; aged 58; a dentist and for many years professor of operative dentistry in his alma mater; died at his home in Roland Park near Baltimore, February 8, from pneumonia.

George Mortimer Hill, M.D., Chicago; Hahnemann Medical College, Chicago, 1897; aged 46; professor of theory and practice of medicine in his alma mater; died in his apartment in the Hyde Park Hotel, February 10, from heart disease.

Charles R. Gough, M.D., Wausau, Wis.; Marquette University, Milwaukee, 1913; aged 31; a Fellow of the American Medical Association; died in St. Mary's Hospital, Wausau, February 10, from paralysis following quinsy.

George C. Chaney, M.D., Independence, Kan.; Eclectic Medical Institute, Cincinnati, 1877; aged 72; twice mayor of Independence; a veteran of the Civil War; also a pharmacist; died at his home, February 4, from lobar pneumonia.

Grant Thomas Johnson, M.D., Wamego, Kan.; Kansas City (Mo.) Medical College, 1893; aged 54; formerly a member of the Kansas Medical Society; died in St. Francis' Hospital, Topeka, February 13, from pneumonia.

William Earland Robinson, M.D., Oelwein, Iowa; State University of Iowa, Iowa City, 1893; aged 51; a member of the Iowa State Medical Society; at one time coroner of Fayette County; died at his home, February 14.

Henry F. Fullerton, M.D., Buffalo; University of Buffalo, N. Y., 1875; aged 84; for nearly fifty years principal of Grammar School No. 16, Buffalo; never a practitioner of medicine; died at his home, February 13.

Anton John Jindra, M.D., Chicago; Northwestern University Medical School, 1917; aged 24; an intern in Cook County Hospital; was shot and killed, February 15, by a woman to whom he is said to have been engaged.

William David Craig, M.D., Henderson, Iowa; State University of Iowa, Iowa City, 1894; aged 51; a Fellow of the American Medical Association; died in Immanuel Hospital, Omaha, February 11, from uremia.

Joseph E. Lowery, M.D., Homer, Ill.; Drake University, Des Moines, Iowa, 1885; aged 56; formerly a Fellow of the American Medical Association; died at his home, November 18, from cerebral hemorrhage.

Lorenzo F. Scofield, M.D., New Philadelphia, Ohio; Starling Medical College, 1881; aged 64; for many years a practitioner of Columbus, Ohio; died at his home, February 12, from cerebral hemorrhage.

Edward Manning Skinner, M.D., Boston; Harvard Medical School, 1862; aged 80; a member of the Massachusetts Medical Society; died at the home of his daughter in Chestnut Hill, Boston, February 8.

John H. MacCallum, M.D., Rochester, N. Y.; Pulte Medical College, Cincinnati, 1889; aged 57; was stricken with heart disease and died while making a professional call in Rochester, February 10.

James G. Williamson, Jr., M.D. Columbia, Tenn.; Vanderbilt University, Nashville, Tenn., 1909; aged 32; a Fellow of the American Medical Association; died in Asheville, N. C., February 6.

John A. Hagerman, M.D., Sciota, Pa.; University of Pennsylvania, Philadelphia, 1878; aged 67; a Fellow of the American Medical Association; died at his home, January 27, from pneumonia.

George Washington Hammond, M.D., Franklin, Ga.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1890; died at his home, February 6, from pneumonia.

Pliny W. Barber, M.D., Newark, N. J.; Hospital College of Medicine, Louisville, Ky., 1875; aged 63; district physician of the eighth district; died at his home, January 15.

Anna M. Dalrymple McCullough, M.D., Philadelphia; Women's Medical College of Philadelphia, 1883; died at the home of her daughter in Germantown, February 10.

Daniel Denison Whedon, M.D., San Diego, Calif.; Long Island College Hospital, Brooklyn, 1905; aged 39; died at his home, February 5, from cerebral hemorrhage.

Howard Jackson Powelson, M.D., Middletown, N. Y.; Hahnemann Medical College, Philadelphia, 1895; aged 43; died at his home, February 5, from pneumonia.

Ella Eliza Severance, M.D., Camden, N. J.; Boston University, 1901; aged 60; died at the West Jersey Homeopathic Hospital, Camden, N. J., February 8.

Wenzel Majeski, M.D., Chicago; Bennett Medical College, Chicago, 1881; aged 73; died in the Alexian Brothers' Hospital, Chicago, February 1.

A. A. Shobe, M.D., Jerseyville, Ill.; Missouri Medical College, St. Louis, 1869; aged 69; died at his home, December 5, from cirrhosis of the liver.

Todd J. Wilson, M.D., Palmer, Mich.; University of Illinois, Chicago, 1913; aged 34; died at his home in Red Ridge, Mich., February 1.

Vincent C. Bidgood, M.D., Churchland, Va.; University of Virginia, Charlottesville, 1881; died at his home, February 5.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SOME MISBRANDED NOSTRUMS

Hayssen's Goitre Cure.—Minnie D. Hayssen trading as H. H. Hayssen Co., Chunchula, Ala., exploited two nostrums, a "Sure Goitre Cure Balsam" and a "Sure Goitre Cure Ointment." The products were declared misbranded by the federal authorities. Analysis showed that the "Balsam" was a solution of potassium iodid and sugar in alcohol and water with about 12 per cent. alcohol, 5.41 per cent. potassium iodid and nearly 50 per cent. sugar. It was sold as a permanent and sure cure of all obstinate cases of goitre. These claims the government declared were false and fraudulent and applied knowingly and in reckless and wanton disregard of their truth or falsity. The "Ointment" was found to be composed chiefly of petrolatum ("vaseline") and potassium iodid containing about 10.7 per cent. of the potassium salt. Practically the same claims were made for the "Ointment" as for the "Balsam" and in each case the purchaser was recommended to use both the preparations at the same time. Minnie D. Hayssen pleaded guilty and was fined $25.—[*Notice of Judgment, No. 4551.*]

MacDonald's Atlas Compound Famous Specific No. 18.—"The Greatest Remedy on Earth for Catarrh, Rheumatism, Blood, Stomach, Heart, Liver, Kidney and all Nervous Ailments" was, according to Jeremiah MacDonald of Binghamton, N. Y., the nostrum sold as "Dr. MacDonald's Atlas Compound Famous Specific No. 18." Also, according to the same authority, it was the "Safest and Best Blood Purifier in the World." Analyzed by federal chemists the "Famous Specific" was reported to be pills consisting essentially of sodium sulphate (Glauber's salt), sodium bicarbonate (baking soda), a laxative plant drug (apparently aloes), ginger, small amount of phosphate, a trace of alkaloid and talc. The pills were coated with starch, calcium carbonate and sugar and the coating colored with fluorescin. Naturally the federal authorities declared the claims made for these pills to be knowingly false and fraudulent. MacDonald, after pleading guilty, was fined $30.—[*Notice of Judgment No. 4559.*]

Faucine.—"Faucine" marketed by the Faucine Co., Meridian, Miss., was sold under such claims as:

"The Most Wonderful Antiseptic and Blood Tonic in the World."

"A warranted remedy for piles, old sores and ulcers, eczema, ringworm, tetter, cuts, burns, insect stings, diarrhoea and flux, cholera morbus, dyspepsia, indigestion, scratches on horses, saddle and harness galls."

Nor was this all. Faucine was also good for "female complaints" and "Hog Cholera"; for piles and pellagra, to say nothing of being a "sure cure for chickens that are diseased with cholera." The Government seized 21 dozen retail packages of this marvel, declaring the product misbranded in that the claims made for it were false and fraudulent. No claimant appeared for the property and judgment of condemnation and forfeiture was entered and the court ordered that the stuff should be destroyed by the United States marshal.—[*Notice of Judgment No. 4563.*]

Contrell's Magic Troche.—The Contrell Co., Tenafly, N. J., shipped into Massachusetts a quantity of "Contrell's Magic Troche." These were analyzed by the federal chemists who reported that the "Troches" had a total alkaloid per cent. of 0.031. The alkaloids present (cephaelin and emetin) indicated the presence of ipecac. Among the claims made for the troche was one to the effect that it was "the most wonderful remedy ever made to cure . . . Catarrh . . . Asthma and Diphtheria. . . ." This claim the authorities condemned as false and fraudulent and applied knowingly, recklessly and wantonly. The company pleaded guilty and was fined $25. — [*Notice of Judgment, No. 4569.*]

The Evening Times

VOL. 16 CEDAR RAPIDS, IOWA, WEDNESDAY, JANUARY 16, 1918 NO. 231

Deaths — Funerals

FUNERAL ALBERT SEMINGER

The funeral services of Albert Seminger, aged 53, who passed away at his home at 627 So. 6th St. early Monday morning will be held from Wymer's Chapel, Thursday afternoon, at 3 o'clock. The services will be in charge of the Knights of Pythias, of which lodge Mr. Seminger was a member, also being a member of the Machinists local 831. He is survived by his wife, Mrs. Albert Seminger, and a son, Robert, aged 16.

HAD TO GIVE UP MACHINIST'S WORK

Cedar Rapids Foundry Employe Says, "I Was in a Mighty Bad Condition."

"For years I have been troubled with stomach ills and Tanlac relieved me at last," says A. G. Cenninger, machinist at Cedar Rapids Foundry, who lives at 639 North First Street.

"I couldn't eat anything to speak of. And I was so run down that I couldn't work at my trade for a long time. I was nervous, too, and didn't sleep soundly at night.

"Tanlac was recommended to me by a friend. I tried it and it helped me so much that I am again able to work at my trade as machinist. I can eat anything set before me. Nothing sours on my stomach.

"If any body wants a personal endorsement they have only to come to me and I will gladly tell them what Tanlac did in my case."

ANOTHER TANLAC TESTIMONIAL FROM THE GRAVE.—The testimonial and death notice appeared in the same issue of the local paper. They refer to the same individual. The difference in spelling of the names is due to typographical errors; the difference in the addresses due to the fact that the testimonial was given before moving to the address at which the death occurred.

Benn Capsules.—Joseph Arthur Bennett, Lowell, Mass., was charged with making false and fraudulent claims for "Benn Capsules," sold as having been "manufactured for the Benn Chemical Co., Lowell, Mass." The capsules on analysis were found to contain strychnin, arsenic, iron and water soluble sulphates. They were sold as a cure for dyspepsia, headache, backache, insomnia, pains in the side, leucorrhoea and falling of the womb, no matter "of whatever gravity or standing." They were also sold as a preventive of consumption and as a kidney remedy. The claims were declared false and fraudulent. Bennett pleaded guilty and was fined $25.—[*Notice of Judgment No. 4570.*]

Collins' Voltaic Electric Plasters.—The federal authorities seized 4,608 "Collins Voltaic Electric Plasters" said to be distributed by Potter Drug and Chemical Corporation, Boston, on the charge that the claims made for them were false. The claims made for the plasters were, in part, to the effect that they would relieve pain and inflammation of the kidneys; that they were of great value in fever and ague, as well as in indigestion, bilious colic and affections of the liver; that they were good for simple bone fractures and would relieve many cases of bronchitis and asthma; also that they would give gratifying relief in cases of "female weakness." These claims were declared false and misleading and the federal authorities requested that the product be

condemned. The Potter Drug and Chemical Corporation filed its claim for the property and, having given a bond, the court ordered that the product should be delivered to the concern on payment of the cost of the proceedings.—[*Notice of Judgment No. 4572.*]

Mother Noble's Healing Syrup.—"Mother Noble's Healing Syrup," according to the label, was "prepared by Dr. E. P. Huyler, successor to Abel King, M.D., Clark Johnson Medicine Co., Props., New York." It was sold under the claim made on the trade package that it was an effective remedy for all diseases of the liver, kidneys, stomach, bowels, skin and blood and an unfailing remedy for dyspepsia, fever, ague and rheumatism, as well as a cure for kidney disease, piles and dropsy. The federal chemists reported that the syrup was a watery solution of a vegetable cathartic drug containing a large amount of undissolved material, mostly licorice, and containing, too, iron chlorid, Epsom salts and sand. The authorities charged that the claims made were recklessly and wantonly false and fraudulent. The Clark Johnson Medicine Company pleaded guilty and was fined $40.—[*Notice of Judgment No. 4579.*]

Stuart's Buchu and Juniper Compound.—The government seized 144 packages of Stuart's Buchu and Juniper Compound put out by the Stuart Manufacturing Co. of Atlanta, Ga., and guaranteed by John B. Daniel of Atlanta, Ga. The stuff admittedly contained 16 per cent. alcohol and it was recommended as a remedy for "Weakness arising from Excesses, Habits of Dissipation, Early Indiscretion or Abuse"; for "inflammation of the Kidneys . . . Catarrh of the Bladder, Diabetes, Dropsy . . . and For All Diseases of the Urinary Organs in Either Sex." Many other equally extravagant claims were made for it. The government charged that the stuff was misbranded first in that the name "Buchu and Juniper Compound" was false and misleading because "in truth and in fact it contained no appreciable amount of buchu and juniper." It also charged that the therapeutic claims were false and fraudulent because the stuff contained no ingredient or combination of ingredients capable of producing the effects claimed. John B. Daniel (Inc.) filed its claims and admitted the facts set forth in the libel. Judgment of condemnation and forfeiture was entered. The court ordered that as in its judgment the stuff might be relabeled under the supervision of the United States Food and Drug Inspector so that it would not violate the law, the product should be released and restored to the claimant on payment of the costs and the execution of a bond in the sum of $125.—[*Notice of Judgment No. 4583.*]

MEDEOL SUPPOSITORIES

Report of the Council on Pharmacy and Chemistry

The following report on Medeol Suppositories has been adopted by the Council, and its publication authorized.

W. A. PUCKNER, Secretary.

"Medeol Suppositories" (Medeol Company, Inc., New York) appear to be an imitation of "Anusol Suppositories" which, in 1907, were found to be inadmissible to New and Nonofficial Remedies. A comparison of the composition and of the claims made for the two preparations will be of interest in the present consideration of Medeol Suppositories.

ANUSOL SUPPOSITORIES (1909)		MEDEOL SUPPOSITORIES (1917)	
Anusoli	7.5	Medeol	0.25
Zinc oxid	6.0	Zinc Oxid	0.5
Balsam Peru	1.5	Acid. Tannic	0.15
Ol. theobrom.	19.0	Bals. Peru	0.16
Ungt. cerat.	2.5	Cocoa Butter and wax *q. s.*	
for 12 suppositories		for 1 suppository.	

"Anusol" was formerly said to be bismuth iodoresorcinsulphonate. The A. M. A. Chemical Laboratory published a report in 1909 showing that the suppositories contained only 1 per cent. of the iodin declared in the "formula," and were greatly deficient in bismuth and sulphur. After the publication of the report the American agents for the product disclaimed that "Anusol" was a definite chemical compound. Today Anusol Suppositories are said to contain unstated amounts of the indefinite "bismuth oxyiodid and resorcinsulphonate."

"Medeol" is said to be "resorcinated iodo bismuth," but no information is vouchsafed as to the character or composition of the ingredient. The therapeutic claims made for the two preparations are similar, as the following, taken from circulars, show:

ANUSOL SUPPOSITORIES

An innocuous, non-irritant remedy for anal, rectal and vaginal inflammatory affections, especially for HEMORRHOIDS!

The local medicinal treatment of hemorrhoidal and other inflammatory ano-rectal conditions has always been unsatisfactory. The usual media cannot be applied in effective concentration without producing intense inflammatory reactions; they are either ineffective or intolerable. . . .

Anusol suppositories are absolutely free from narcotic, caustic or other injurious ingredients and may unhesitatingly be used by both sexes, at any age and under all conditions.

MEDEOL SUPPOSITORIES

An innocuous, Non-irritant, Efficient Antiphlogistic for use in inflammatory diseases of the rectum, anus and vagina especially in HEMORRHOIDS.

Hitherto most of the local remedies used in these conditions have either been too irritating to be employed in sufficient concentration to be efficient or they have lacked efficiency per se. . . .

Medeol suppositories do not contain any narcotic or any caustic or other constituent having violent action; their blandness permits of their use in either sex and at all ages.

The claims made for these preparations—as for instance "that surgical treatment . . . should rarely be undertaken until Medeol Suppositories have been given a thorough trial"—are misleading in that they create the inference that the limitations in the palliative treatment of piles have been overcome. It is altogether untrue that these mixtures can be expected to "relieve the most obstinate cases," as stated in a Medeol circular. This, from an Anusol circular, is equally misleading:

"If dietetic and other requirements are complied with, even the most obstinate chronic cases will frequently readily yield to treatment with Anusol Suppositories."

The Council declared Medeol Suppositories inadmissible to New and Nonofficial Remedies because their composition is secret (Rules 1 and 2); because unwarranted therapeutic claims are made for these (Rule 6); because the name is objectionable (Rule 8), and because the combination is unscientific (Rule 10).

In those cases of hemorrhoids in which palliative measures may be expected to enable the patient to avoid surgical interference and afford relief from attacks, the object should be to secure cleanliness, to avoid irritation, whether it be by friction or irritating fecal matter, to reduce inflammation by astringents and, when necessary, to relieve pain by analgesics. If an antiseptic dusting powder is desired boracic acid in impalpable powder with talc may be employed; if an astringent, finely powdered oxid of zinc may be added; if a local analgesic is necessary a little extract of belladonna may be incorporated with petrolatum or other ointment base. The main reliance in any event should be to effect normal bowel movements by regulating the diet rather than by the use of purgatives; the use of warm water to insure cleanliness; the avoidance of irritation, especially that caused by friction and secretions; a mild astringent to reduce inflammation.

[EDITORIAL NOTE.—During the past year advertisements of Anusol Suppositories appeared in the following medical journals:

Medical Record
Boston Medical & Surgical Journal
Woman's Medical Journal
Interstate Medical Journal
American Journal of Surgery
Medical Review of Reviews
Medical Council
New York Medical Journal
American Medicine
International Journal of Surgery
Urologic and Cutaneous Review
Critic and Guide
Journal-Lancet

Advertisements of Medeol Suppositories appeared with a good deal of regularity during the past year in the following:

Medical Record
American Medicine
International Journal of Surgery
New York Medical Journal
Medical Times]

Correspondence

"WHAT CONSTITUTES GOOD MILK?"

To the Editor:—In The Journal, Feb. 2, 1918, an editorial discusses our present methods of estimating the wholesomeness and value of grades of milk. It seems to me that this editorial does not express the views of the enlightened medical profession. It makes the statement, "We are forced to admit today that bacteria per se do not necessarily render the milk unfit for human consumption," and later, "there is very little connection between the amount of germ life in milk and the healthfulness of milk." It emphasizes this point of view by stating that the consumer has little interest in the germ content of milk except for a limited number of disease-producing forms except so far as the germ content produces souring or bad flavors. Although the writers of the article on which the editorial is founded are capable men, it should be remembered that they are not physicians and that they are interested in the dairy rather than in the infant.

As far back as 1902 and 1903, Dr. Holt and I, with a number of investigators connected with the health department, made a study of this question. We found very definitely that milk containing a few hundred thousand bacteria per cubic centimeter was usually harmful to infants in summer, and that milk containing millions of bacteria was still more harmful, and that even pasteurization did not make such a milk wholesome for infants. In cold weather and in older children, the harmful effects were absent or less noticeable.

So far as I know, all investigators since that time have come to similar conclusions. No one who has had experience claims that every variety of germ is harmful to infants; but it is impossible in ordinary commercial milk to arrange that only the harmless forms should enter it and, as a rule, the ordinary loose city milk has been shown to be harmful for infants in summer whether the milk was pasteurized or not, if the germ content was high.

The experts whose report led to the writing of the editorial were considering the best methods for grading milk and not the question as to whether excessive numbers of bacteria in market milk were wholesome or not. It would be, to my mind, a step backward to accept the views expressed in the body of the editorial.

William H. Park, M.D., New York.

[Comment.—The Journal's editorial did not take a definite stand on the question at issue, but merely presented the matter as seen in the light of the new evidence available: that presented by the experts of the American Dairy Science Association, Drs. H. A. Harding, R. S. Breed, W. A. Stocking, Jr., and E. G. Hastings. The Journal's editorial abstracted the pamphlet by these authors on "What is Meant by 'Quality' in Milk?" and concluded with the following editorial statement, by which it stands:

> In the light of what has been learned, then, good milk must exhibit several desirable qualities. It should have a high food value, of which the fat content is a good relative index, though by no means the sole criterion. It must be made safe from the standpoint of disease, and thus healthful by being produced under the competent supervision of cows and men or by being properly pasteurized. Milk ought to be clean in the sense of being reasonably free from obvious dirt. Even today it has become one of our cleanest foods. And it must be produced and handled so as to keep well. For these factors—food value, as expressed by composition; healthfulness, or elimination of dangerous contamination; cleanliness, or protection from dirt; keeping quality, as determined by care of utensils, cooling, and prompt delivery—there is a mutual responsibility on the part of producers, distributors, and even consumers.

The subject merits a scientific open discussion, and our columns are available for this purpose.—Ed.]

THE NATIONALITY OF GRAVES

To the Editor:—I wish to point out a mistake made both by Charcot and your contributor Stewart R. Roberts in the issue of The Journal which has just come to hand (Dec. 29, 1917, p. 2204). In a letter from Stewart R. Roberts he quotes Charcot, and the mistake occurs in the last few lines of a quotation from the letters of the latter. It is his reference to the nativity of the distinguished physician, Graves. Graves, as every student of medicine should know, was born in Ireland and practiced medicine all his life in Dublin, which is the capital of Ireland.

Daniel T. Sheehan, M.B., Milltown,
County Kerry, Ireland.

[Note.—Following is a brief biography of Graves from Garrison's "History of Medicine":

> Robert James Graves (1796-1853), the son of a Dublin clergyman, took his medical degree in 1818, and, while making the usual continental tour, had such adventurous experiences as being arrested as a German spy in Austria on account of his fluency as a linguist, and of successfully putting down a mutiny on board ship during a storm in the Mediterranean, afterward assuming command and saving the vessel through his pluck. Returning to Dublin in 1821, he became chief physician to the Meath Hospital and one of the founders of the Park Street School of Medicine. Here he immediately went in for the widest reforms, introducing the continental methods of clinical teaching, such as making his advanced students handle and report on clinical cases, and suppressing the maltreatment and abuse which hospital patients had to endure from the rough-spoken Irish M.D.'s of the day. Tall, dark, and *distingué*, Graves had a warm heart, in spite of his sarcastic speech, and once even did a stint of literary work for a poor student. His *Clinical Lectures* (1848), which Trousseau read and reread with highest admiration, introduced many novelties, such as the "pin-hole pupil," timing the pulse by the watch, and discarding the old lowering or antiphlogistic treatment of fevers. He requested that the phrase "He fed fevers" should be his epitaph. Graves also left early accounts of angioneurotic edema and scleroderma, and, in 1835, he published a description of exophthalmic goiter so admirable that the disease still goes by his name.]

CREATINURIA

To the Editor:—In an editorial with this title (The Journal, Dec. 29, 1917, p. 2186), the following appeared:

> Normal children, however, are now recognized to excrete creatin commonly during the period of adolescence. This was demonstrated in this country several years ago by W. C. Rose at Yale University and verified by Folin and Denis at the Harvard Medical School.

A similar statement has appeared a great many times in literature and I am, therefore, sending you herewith a reprint of my article on "Creatinin and Creatin Metabolism in Children" (The Journal, Oct. 1, 1910, p. 1178), which appeared before Rose's article. I would refer also to another reprint on the "Creatinin and Creatin Excretion in Recurrent Vomiting" (*Am. Jour. Dis. Child.*, April, 1912, p. 209).

Rose recognizes my work in his own article also.

J. P. Sedgwick, M.D., Minneapolis.

INSTRUCTIONS FOR ADVISORY BOARDS, AND THE DIAGNOSIS OF TUBERCULOSIS BY ROENTGENOLOGY

To the Editor:—The manual of instructions, recently sent to members of the medical advisory boards, on the whole is an admirable compilation. The descriptions of the various conditions likely to be met are clearly and concisely described, in places with almost the simplicity of Greek art. In contrast to this general excellence stands the Cubist or Futurist description of the roentgenoscopic examination of the lungs in tuberculosis. This reminds one of a jumble of lines and colors which the artist labels a Nude (presumably woman) Coming Down Stairs (presumably in the sunlight), but which to others appears more like a railroad wreck in a fog than anything else. This is unfortunate, because the recent scientific work, particularly of Dunham and Miller, on the interpretation of the roentgenogram shadows of tuberculous and normal lungs makes it possible to have a simple, clear, scientific description of the roentgenogram of tuberculous lungs instead of the involved, muddled and unscientific description given in the manual. Such a description would be an aid to the roentgenologists on the advisory boards who have not had much experience with the interpretation of roentgenograms of the lungs. The description given can only lead to hopeless confusion of thought if one attempts to follow it. Descriptions of roentgenograms of internal organs as complex as the lungs are worthless unless based on careful clinical, pathologic and anatomic studies in conjunction with fluoroscopy and roentgenography. For the decade to which the drafted men belong, tuberculosis is the most important disease; and the latest and most scientific work should be utilized in keeping it from the Army.

C. R. Bardeen, M.D., Madison, Wis.

THE WORK OF THE MEDICAL ADVISORY BOARDS

To the Editor:—I have seen the comment in THE JOURNAL (Feb. 23, 1918, p. 541) concerning the work of the medical advisory boards. As chairman of Board No. 3, Columbia University Group, I wish to express my appreciation of your suggestion, and hope that such recognition will be secured.

My particular board would prefer some insignia to wear and a certificate to put away in a strong box.

HENRY E. HALE, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

JOURNAL ON PUBLIC HEALTH

To the Editor:—I am a member of our city board of health. We have a live city manager at the head of our city affairs, and we ask you to recommend to us the best journal of public health or city sanitation. W. G. HOPE, M.D., Albuquerque, N. M.

ANSWER.—A very good journal for your purpose is the *American Journal of Public Health*, the organ of the American Public Health Association. The *Journal* may be addressed at 126 Massachusetts Avenue, Boston. Other journals printing articles on public health topics are the *Journal of Infectious Diseases*, Chicago, and the *Journal of Hygiene*, University Press, Cambridge, England. Much important material on public health matters appears also in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

METHOD OF WRITING CERTAIN ABBREVIATIONS

To the Editor:—1. Is it correct to write the abbreviations $\overline{ss}$, $\overline{c}$, $\overline{s}$, $\overline{aa}$ this way, or should they be written thus: $\overline{\overline{ss}}$, $\overline{\overline{c}}$, $\overline{\overline{s}}$, $\overline{\overline{aa}}$? The latter seems absurd.

2. Does the term "s. o. s." written after an order for medication or treatment mean just once (of whatever ordered) if necessary, or does it mean just once and repeat once, or does it mean something else? From the Latin it would seem to mean one dose a time if necessary.

S. B. BLAKELY, M.D., Binghamton, N. Y.

ANSWER.—1. The terms $\underline{\underline{aa}}$, $\underline{\underline{ss}}$, $\underline{c}$, $\underline{s}$ and $\underline{\underline{aa}}$, $\underline{\underline{ss}}$, $\underline{c}$, $\underline{s}$, are usually written without the lines or dots above the letters, thus: aa, ss, etc.; aa is sometimes written āā.

2. The term s. o. s. is an abbreviation for *Si opus sit*, meaning "if necessary," "if there be occasion" or "if there be opportunity." It is sometimes abbreviated si. op. sit.

REMOVAL OF ARGYROL STAINS

To the Editor:—Please state in your "Queries and Minor Notes" Department the most satisfactory method of removing argyrol stains from linen, particularly as applied to our hospital laundry.

A. J. GUERINOT, M.D., Pittsburgh.

ANSWER.—Argyrol stains on hands or clothing may be removed by rubbing with a salt grease, such as bacon grease, followed by soap and water. Silver stains on towels, etc., can readily be removed by the application of dilute solutions of mercuric chlorid.

POTATO AND BRAN BREAD

To the Editor:—What is the nutritional value of bread made from flour composed of potatoes, one fifth, and bran flour, four fifths, as compared to ordinary white flour bread? What would be the effect of continued use of this bread? Please do not publish name.

N. R. W.

ANSWER.—If one-fifth potatoes and four-fifths ground bran were used, the resulting substance could hardly be called a bread. Its nutrition value, weight for weight, would be much less than that of ordinary white bread. The continuous use of such a substance to the exclusion of other breadstuffs would in time be harmful, owing to the excessive amount of undigestible bran. This substance would lack gluten—the structural "steel work" of the bread loaf—and hence would not form a pleasing substance. On the other hand, if by bran flour our correspondent means unbleached whole wheat flour, then the nutritional value would be essentially the same, weight for weight, as that for white bread made from "patent flour." From a standpoint of health, it would probably be better than white bread. It would contain a certain, but not excessive, amount of undigestible residue, certain mineral salts, and would be further enhanced by the absence of products resulting from artificial bleaching.

HARRISON LAW REGISTRY NUMBER ON PRESCRIPTIONS

To the Editor:—Is it permissible to have the registry number under the Harrison law printed on one's prescription blank?

F. O. YOUNG, M.D., Lexington, Ky.

ANSWER.—It is a good plan to have the registry number under the Harrison law printed on the prescription blank, as the law requires that the registry number, together with the physician's name and address, appear on all prescriptions containing narcotics mentioned in the narcotic law.

INSULATION OF ROENTGEN-RAY TRANSFORMER

To the Editor:—I wish you would tell me whether there is any vital reason why the roentgen-ray transformer should have the coil insulated in oil. C. MAYFIELD, M.D., Hutchinson, Kan.

ANSWER.—The oil is the insulator. For all high tension work the coil must be oil insulated, otherwise it will short circuit and burn out. The most effective roentgen-ray work today is high tension work.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

COLORADO: Denver, April 2. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: New Haven, March 12-13. Sec., Dr. Charles A. Tuttle, New Haven.

CONNECTICUT (H): New Haven, March 12. Sec., Dr. E. C. M. Hall, 82 Grand Ave., New Haven, Conn.

DISTRICT OF COLUMBIA: Washington, April 9-11. Sec., Dr. Edgar P. Copeland, The Rockingham, Washington.

IDAHO: Pocatello, April 2-3. Sec., Dr. Ray H. Fisher, Rigly.

ILLINOIS: Chicago, March 25-26. Mr. F. C. Dodds, Supt. of Registration, Springfield.

MAINE: Portland, March 12-13. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MASSACHUSETTS: Boston, March 12-14. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.

MINNESOTA: Minneapolis, April 2-4. Sec., Dr. Thomas McDavitt, 741 Lowry Bldg., St. Paul.

MISSOURI: St. Louis, March 19-21. Sec., Dr. George H. Jones, Capitol Bldg., Jefferson City.

MONTANA: Helena, April 2. Sec., Dr. S. A. Cooney, 205 Power Bldg., Helena.

NEW MEXICO: Santa Fe, April 8. Sec., Dr. R. K. McClanahan, East Las Vegas.

OKLAHOMA: Oklahoma City, April 9-10. Sec., Dr. J. J. Williams, Weatherford.

RHODE ISLAND: Providence, April 4-5. Sec., Dr. B. U. Richards, State House, Providence.

UTAH: Salt Lake City, April 1-2. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

Idaho April Examination

Dr. Charles A. Dettman, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, April 2-4, 1917. The examination covered 11 subjects and included 110 questions. An average of 75 per cent. was required to pass. Ten candidates were examined, including 1 osteopath, all of whom passed. Five candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago		(1902)	83
Northwestern University		(1913)	79
Rush Medical College		(1915) 86; (1916)	85
College of Physicians and Surgeons, Keokuk		(1873)	75
State University of Iowa College of Med.		(1903)	81
Jefferson Medical College		(1914)	84
University of Pennsylvania		(1914)	87
Sewanee Medical College		(1909)	82

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Northwestern University		(1912)	Utah
Ensworth Medical College		(1900)	Utah
John A. Creighton Medical College		(1914)	Utah
Columbia University		(1916)	Utah
Jefferson Medical College		(1908)	Utah

Massachusetts September Examination

Dr. Walter P. Bowers, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, practical and written examination held at Boston, Sept. 11-13, 1917. The examination covered 13 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 42 candidates examined, 22, including 3 osteopaths, passed, and 20, including 13 osteopaths, failed. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
Yale University	(1913)	80
Johns Hopkins University	(1912) 78; (1915)	83.5
University of Maryland	(1914)	79.3
Boston University	(1917)	75, 76.9
College of Physicians and Surgeons, Boston	(1917)	75, 79.7
Harvard University	(1915) 79.4; (1917)	81.1, 81.4
Tufts College Medical School	(1910) 75; (1917)	76, 78.9
Missouri Medical College	(1879)	79.2
Eclectic Medical Institute	(1903)	75
University of Vermont	(1917)	79
Queen's University	(1915)	75
McGill University	(1908)	84.9
FAILED		
Howard University	(1916)	70.4
Maryland College of Eclectic Med. and Surg	(1914)	70.5
Maryland Medical College	(1913)	60.9
University of Maryland	(1917)	73
College of Physicians and Surgeons, Boston	(1917)	68
University of West Tennessee	(1916)	62.2
University of Naples	(1912)	72.9

Nebraska May-June and July Examinations

Dr. Joseph J. Hompes, secretary of the Nebraska State Board of Examiners, reports the oral, practical and written examinations held at Lincoln, May 31-June 1, and July 2, 1917. The examinations covered 13 subjects. An average of 70 per cent. was required to pass. Fifty-nine candidates were examined, all of whom passed. Eight candidates were granted reregistration certificates. Twenty-eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
Hahnemann Medical College of the Pacific	(1916)	76 5
Chicago College of Medicine and Surgery	(1916)	82 7
Baltimore University	(1902)	84.6
Cotner University	(1914)	77.9
John A. Creighton Medical College	(1901) 81.6, 82.9; (1902) 81.7; (1917) 76.5, 77.7, 78.2, 78.7, 79.1, 79.7, 79.7, 79.7, 80.2, 80.2, 80.5, 80.7, 80.9, 81, 81.6, 81.9, 81.9, 81.9, 82.5, 82,6, 82.6, 82.7, 83, 83.2, 83.2, 83.4, 84.6, 85.4, 86, 87.9, 87.9, *.	
Lincoln Medical College	(1898) 80.4; (1917) 81.5, 83.5, 84.6, 86.4	
University of Nebraska (†)	80.4; (1917) 79.6, 80.5, 80.9, 81.4, 82, 82.1, 82.4, 82.9, 83.2, 83.4, 83.7, 84.7, 85, 85.9.	

* No grade given.
† Work completed; will receive diploma later.

LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Atlanta College of Physicians and Surgeons	(1902)	Mississippi
Loyola University	(1916)	Illinois
College of P. and S., Chicago	(1910) Illinois; (1915)	Iowa
Rush Medical College	(1906) (1915)	Illinois
State University of Iowa Coll. of Medicine	(1910)	Iowa
University of Louisville	(1907)	Mississippi
Tulane University of Louisiana	(1888) (1891) (1910)	Mississippi
Eclectic Medical University	(1917, 2)	Arkansas
St. Louis University	(1916)	Missouri
University Medical College of Kansas City	(1913)	Kansas
Washington University	(1906)	Illinois
Jefferson Medical College	(1895) Missouri; (1904)	Mississippi
Memphis Hospital Medical College	(1888) (1899) (1901) (1903) (1905, 2)	Mississippi.
Sewanee Medical College	(1900)	Mississippi
University of Nashville	(1906) (1908)	Mississippi
University of Virginia	(1894)	Mississippi

Missouri December Examination

Dr. George H. Jones, secretary of the Missouri State Board of Health, reports the oral and written examination held at St. Louis, Dec. 17-19, 1917. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 31 candidates examined, 23 passed and 8 failed. Thirteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
Howard University	(1916) 83.5; (1917)	82.1
Chicago College of Medicine and Surgery	(1917)	82.1
Loyola University	(1916)	76.2
University of Illinois	(1916)	86.4
Hospital College of Medicine	(1906)	75
Johns Hopkins University	(1917)	85.6
Boston University	(1917)	80.5
American Medical College	(1901)	75
Beaumont Hospital Medical College	(1887)	75
Kansas City Hahnemann Medical College	(1915)	87.3
St. Louis College of P. & S.	(1905) 75, 75; (1909)	75
St. Louis University	(1904) 83.2; (1917)	79.5, 85.1
Columbia University	(1903)	82.1
Meharry Medical College	(1915) 75; (1916) 84.9; (1917)	75, 75.1, 83.5
FAILED		
Meharry Medical College	(1916) 61.8, 69.3, 72.5; (1917)	57.1, 64.3
University of West Tennessee	(1915) 57.4, 68.1, 73.5	

LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College	(1897)	Indiana
Drake University	(1908)	Iowa
University of Kansas	(1910) (1916)	Kansas
Kentucky University	(1904)	Virginia
Louisville Medical College	(1907)	Penna.
University of Maryland	(1916)	Maryland
University of Michigan Medical School	(1902)	Iowa
St. Louis College of Physicians and Surgeons	(1915)	Tennessee
Eclectic Medical Institute	(1903)	Indiana
Meharry Medical College	(1916)	Tennessee
University of Tennessee	(1901)	Kentucky
Vanderbilt University	(1912)	Kentucky

Nebraska November Examination

Dr. J. J. Hompes, secretary of the Nebraska State Board of Health, reports the oral, practical and written examination held at Lincoln, Nov. 14-15, 1917. The examination covered 11 subjects. An average of 75 per cent. was required to pass. Four candidates were examined, all of whom passed. Seven candidates were licensed through reciprocity, and 1 candidate was granted a reregistration license. The following colleges were represented:

PASSED	Year Grad.	Per Cent.
Rush Medical College	(1917)	87
Sioux City College of Medicine	(1901)	82
Boston University	(1917)	86
Jefferson Medical College	(1916)	82

LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1883)	Iowa
Chicago College of Medicine and Surgery	(1917)	Illinois
State University of Iowa Coll. of Homeo. Med.	(1909)	Colorado
Kansas Medical College	(1906)	Kansas
Harvard University	(1909)	Mass.
Dartmouth Medical School	(1909)	Mass.
Eclectic Medical College	(1896)	Missouri

Ohio Reciprocity Report

Dr. Herbert M. Platter, secretary of the Ohio State Medical Board, reports that 15 candidates were licensed through reciprocity at the meeting held Oct. 2, 1917. The following colleges were represented:

LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College	(1913)	Illinois
Medical College of Indiana	(1903)	Illinois
Tulane University	(1916)	Texas
Bowdoin Medical College	(1916)	Maine
University of Michigan Med. School	(1897) (1915) (1902)	(1916) Michigan Vermont
University and Bellevue Hosp. Med. Coll.	(1909)	New York
Jefferson Medical College	(1903)	Penna.
University of Pittsburgh	(1912)	Penna.
Texas Medical College and Hospital	(1881)	Texas
University of Vermont	(1898)	Vermont
University of Virginia	(1911)	Virginia
University of Naples	(1891)	New York

New Mexico October Examination

Dr. R. K. McClanahan, secretary of the New Mexico State Board of Medical Examiners, reports that 18 candidates were licensed on satisfactory credentials at the examination held at Sante Fe, Oct. 9-10, 1917. The following colleges were represented:

PASSED	Year Grad.	Total No. Licensed
University of Alabama	(1910)	1
Yale University	(1912)	1
College of Physicians and Surgeons, Chicago	(1910)	1
Hahnemann Med. Coll. and Hosp. of Chicago	(1914)	1
Rush Medical College	(1914)	1
University of Louisville	(1892)	1
Tulane University of Louisiana	(1905)	1
College of Physicians and Surgeons, Baltimore	(1910)	1
St. Louis College of Physicians and Surgeons	(1904)	1
Syracuse University	(1916)	1
Jefferson Medical College	(1907)	1
University of Pennsylvania	(1900)	1
University of Pittsburgh	(1911)	1
University of Tennessee	(1916)	2
Fort Worth School of Medicine	(1906)	1
Milwaukee Medical College	(1912)	1
Kings Queens College of Physicians, Ireland	(1888)	1

Book Notices

MILITARY OPHTHALMIC SURGERY. By Allen Greenwood, M.D., Major, M. R. C., U. S. Army. Including a Chapter on Trachoma and Other Contagious Conjunctival Diseases by G. E. de Schweinitz, M.D., Major, M. R. C., U. S. Army; and a Chapter on Ocular Malingering by Walter R. Parker, M.D., Major, M. R. C., U. S. Army. Medical War Manual No. 3, Authorized by the Secretary of War and Under the Supervision of the Surgeon-General and the Council of National Defense. Leather. Price, $1.50. Pp. 115, with 16 illustrations. Philadelphia: Lea & Febiger, 1917.

This booklet contains three articles: the first, a general article on ophthalmic surgery, by Dr. Allen Greenwood; on trachoma and the common forms of conjunctivitis, by Dr. C. E. de Schweinitz; and the third, on the examination of malingerers, by Dr. Walter R. Parker.

Dr. Greenwood points out that 10 per cent. of the injured coming to a base hospital require some immediate examination or treatment of the eyes or surrounding structures. The most common conditions encountered are contusions and wounds of the eyeball. Less common are traumatic cataracts. In the way of prophylaxis, he believes that shields covering the eyes and temples should be of service if the soldiers will wear them. One of these has been designed by Dr. W. H. Wilmer, of Washington, at the request of the Ordnance Department. He suggests also that each base hospital be equipped to do refractions, and gives a list of eye instruments for an Army case for use in base hospitals. In an appendix he gives six indications for enucleation and four indications for evisceration. This material occupies about fifty-two pages of the small manual.

The article by Dr. de Schweinitz on trachoma and common forms of conjunctivitis occupies forty-six pages. It is illustrated with five colored plates as well as black and white pictures.

Parker's article on malingerers occupies eight pages. He enumerates the equipment necessary for complete examinations, and describes the methods of utilizing it for this purpose. A final appendix lists diseases of the eye and adnexa, eye injuries and eye operations.

This manual contains valuable material. But considering the object for which it was prepared, it should be available at at most one half its cost.

PROBLEMS OF MYSTICISM AND ITS SYMBOLISM. By Dr. Herbert Silberer. Translated by Smith Ely Jelliffe, M.D., Ph.D. Cloth. Price, $3 net. Pp. 451. New York: Moffat, Yard & Co., 1917.

The reason for translating this work, according to Jelliffe, is to show the essential relationships of what is found in the unconscious of present-day mankind to many forms of thinking of the middle ages. We thus arrive at a science that may be called paleopsychology. "Its fossils are the thought-forms throughout the ages, and such a science seeks to show fundamental likenesses behind the more superficial dissimilarities." The parable with which the author introduces his work is taken from a Rosicrucian work of the sixteenth century. This parable the author submits to a psychanalytic interpretation, regarding it as a dream or fairy tale, and endeavoring to interpret what it symbolizes. In this analysis he evidences a vast amount of ingenuity and undoubtedly goes as far in his interpretations as any of the believers in the symbolistic phases of Freud's theories. It is, of course, possible, and this must always be kept in mind, that the writer of the parable had no unconscious conception such as the author believes underlies his parable. Perhaps the only way to find this out would be to adopt the plan suggested for determining the famous Shakespeare-Bacon controversy. After a certain notoriously bad actor had played the part of Hamlet, it was suggested that the graves of the two be opened, and the one who had turned over during the night was the one who wrote the play. But the author's interpretation of the parable is undoubtedly quite convincing, and if our ancient hermit or Rosicrucian turned over, it was probably in shame at this public revelation of his hidden sexual thoughts.

Dr. Silberer then discusses alchemy, the hermetic art, Rosicrucianism and multiple interpretation. Particularly interesting is his tracing of the development of the order of free masonry from the Rosicrucianism of the middle ages, and here again his analysis of symbols, as shown in the writings and work of these organizations, is fascinating and quite convincing.

The final section of the work is devoted to introversion and regeneration. It is here that the author traces the development of thought and expression in the individual. It was shown that the imagination evinces a predilection for symbolic forms of expression. The term "introversion," coined by Jung, signifies the withdrawal of interest from the outer world and the development of interest and pleasure within one's own thoughts. There are, of course, certain neuroses in which this tendency is greatly exaggerated. This introversion is continually connected with regression, that is, the thinker harks back from thinking to gazing, from doing to hallucinating, from the pleasures of the adult to the pleasures of childhood. With this comes the desire for symbolic forms of expression and mysticism.

Now all of this is very complicated; and yet it may have a very definite relation to the study and treatment of human disease and to a more complete understanding of the human mind and its products. The single fact that the development of free masonry with its tremendous symbolism has captivated millions of men, including thousands of those who have been called great, is evidence of the importance of these factors in human life.

VIRGINIA HEALTH BULLETIN, 1916. Volume 8. Annual Report of State Board of Health. Cloth. 1916.

The report of the state board of health and of the health commissioner are bound in one volume with the twelve monthly numbers of the *Health Bulletin*. The report for the year 1916 has been distributed and shows gratifying progress in all matters pertaining to health conditions, under a good organization working along modern lines of health conservation and disease prevention.

The monthly *Health Bulletin* and *Almanac* is prepared for the benefit of the laity as well as for the local health officers and the physicians of the state of Virginia, and it contains much educational and other interesting matter pertaining to wholesome living and the prevention of disease, news of the progress of health legislation and administration, reports on vital statistics, and a variety of information regarding the home, the school and the farm. The annual report of the state health board and its various officers shows a smooth working organization giving attention to all the features of a modern health machine, such as vital and morbidity statistics, publicity, school nursing, visiting and industrial nursing, sanitary engineering, water supply, malaria and hookworm prevention, laboratory work, and sanatorium treatment of tuberculosis.

PHYSICAL DIAGNOSIS. By W. D. Rose, M.D., Lecturer on Physical Diagnosis in the Medical Department of the University of Arkansas. Cloth. Price, $4. Pp. 499, with 294 illustrations. St. Louis: C. V. Mosby Company, 1917.

The brief review of the clinical symptoms and pathology that precedes the description of the physical signs and diagnosis of the various diseases will make this volume of special value for constant reference by the general practitioner. A short description of the symptoms and pathologic features placed side by side with a discussion of the physical signs enables one more readily to understand the significance of one's observations when making a clinical examination. In a chapter devoted to an explanation of the blood pressure, the technic of applying the tests is explained, and the diagnostic importance of the results secured is carefully described. The illustrations effectively supplement the descriptions given in the text; but the fact that a large proportion are copied from other authors detracts from the originality of the volume. The Bárány tests for localizing intracranial lesions are given in condensed and practical form. The systematic tables showing the clinical facts on which these equilibrium tests are based are particularly instructive.

THREE CLINICAL STUDIES IN TUBERCULOUS PREDISPOSITION. By W. C. Rivers, M.R.C.S., D.P.H., Tuberculosis Officer, Barnsley District, West Riding, Yorks. Cloth. Price, 12 shillings 6 pence net. Pp. 272, with illustrations. London: George Allen & Unwin, 1917.

In 1904, the author noticed a consumptive who gave a history of having nasal obstruction; further observation of other cases gave rise to the generalization that nasal obstruction is a contributory cause of tuberculosis of the lungs. Three years later he noticed a few ichthyotics among his consumptives, and later still, a few cases of squint. He has noted that ichthyosis and nasal obstruction are overfrequent in connection with surgical tuberculosis, but is not so sure that the same relation obtains in reference to squint and tuberculosis. He reports twenty-three cases of ichthyosis out of 1,600 consumptives, besides quoting cases of Tommasolli, Lewin, Garkoin, Du Mesnil and others. He concludes that the existence of ichthyosis may conduce to the acquisition of tuberculosis. This study, while not convincing, is interesting and should direct the attention of phthisiologists to the skin conditions present in their patients; for the skin picture is all too often slurred over during inspection. Rivers observed six cases of squint in 500 consumptives. In this connection, he goes into left-handedness, mentions idiocy and neurotic tendencies, and closes with the statement that "there is undoubted association between tuberculosis and concomitant strabismus, of predisposition to which latter disease squint forms a sign." One should not forget that a group of patients exhibiting strabismus, left-handedness, ambidexterity and other stigmata of degeneracy plus poverty might well be expected to show a high percentage of tuberculosis. It would appear that the author has spent unnecessary effort in trying to establish the relation referred to above. In the section on consumption and nasal abnormality are presented numerous citations to show that pulmonary tuberculosis and nasal defects are closely related, with the latter as causal factors, not excluding perforation of the septum. When, as the author shows, nasal obstruction produces mouth breathing and thus facilitates tuberculous infection, no one will take issue with him. Among the conclusions, to which forty-eight pages are devoted, Rivers states that when the lungs do not yield characteristic signs and symptoms, the presumption of tubercle must be strengthened a good deal in the presence of consumptive predisposition. The reader cannot help feeling that the matters in this book might have been presented with more regard for brevity.

THE TREATMENT OF INFANTILE PARALYSIS. By Robert W. Lovett, M.D., John B. and Buckminster Brown Professor of Orthopedic Surgery, Harvard Medical School. Second Edition. Cloth. Price, $1.75. Pp. 175, with 123 illustrations. Philadelphia: P. Blakiston's Son & Co., 1917.

This book presents a subject to which the author has devoted more than the usual amount of study. A preliminary chapter on the pathology, symptoms, etc., is followed by four chapters on treatment, one on muscle training, and a final chapter on the author's spring balance muscle test. In his discussion of the serum treatment, Dr. Lovett limits himself to the use of convalescent serum, and makes no mention of the serums made by Rosenow and Nuzum from the streptococci that they found in this disease. The book is almost wholly orthopedic in character, discussing the various measures for restoring function to the disabled parts.

SURGICAL NURSING IN WAR. By Elizabeth R. Bundy, M.D., Member of the Medical Staff, Woman's Hospital, Philadelphia. Cloth. Price, 75 cents. Pp. 184, with 37 illustrations. Philadelphia: P. Blakiston's Son & Co., 1917.

This little manual is especially planned for the graduate nurse, who, of necessity, must become a guide to inexperienced co-workers in times of emergency, because of the many untrained nurses employed in the large base hospitals of the war zone. Much attention is paid to wounds made by the various missiles of modern warfare, so that the nurse may differentiate among those caused by pointed bullets, shrapnel, high explosive shells, bombs, hand grenades, and the like. It is questionable as to just how much of this nurses will require. In a well planned chapter on surgical dressings, the Dakin-Carrel method of treating wounds is set forth with great clearness and illustrated with drawings of the Carrel instillation apparatus. The nurse is instructed in the emergency measures to be carried out in cases of threatened gangrene and severe shock, and in the administration of tetanus antitoxin. Civilian nurses who are preparing for war service will find much that is helpful in the chapter on mechanical appliances, in which the various modern types of splints and bandages are described in detail, with special emphasis on the nurse's part in the setting of bone fractures.

A comprehensive chapter on bone injuries completes the discussion of this important subject.

Social Medicine, Medical Economics and Miscellany

Science and the Hours of Work

The application of science to the industries has been responsible for many of the advances of recent decades. The chief of these, says Frederic S. Lee (*Public Health Reports*, Jan. 11, 1918) have been mechanical engineering, which has invented and developed automatic machinery; and chemistry, which has discovered new chemical substances and new chemical processes. In industrial work on the physical side, the human equation has not yet been eliminated; but in this regard much improvement can be made by scientific attention to industrial physiology, as Lee calls it. The human machine, unlike the machine of steel and iron, is subject to the limitation of fatigue, which delays work, diminishes output, spoils goods, causes accidents and sickness, keeps workers at home, and thus is an obstacle to efficiency. How fatigue can be kept down, and the individual maintained so as to produce the maximum of output, is the great industrial problem. This problem has been studied, more particularly since the beginning of the world war, in Great Britain by the Health of Munition Workers Committee and in America by the Committee on Industrial Fatigue of the Advisory Commission of the Council of National Defense.

It has been found both from physiologic experiments and from careful observation of actual work that the greatest amount of work is not performed at the beginning of the working period, but the curve at first gradually rises to a maximum, indicating for a time a progressive improvement in working power. Following the maximum there is a gradual, slow decline in the curve, indicating fatigue, which may continue, in the case of the experimental muscle, to complete exhaustion. While in the human being the physiologic conditions are infinitely more complicated than in the single muscle, yet the curve of output closely resembles the muscle curve in work that requires close attention and exact muscle coordination. There is at first a gradual rise, continuing through the first hour or two, and then a fall, gradually increasing throughout the remainder of the working spell. After the luncheon hour, which provides rest and food, the curve repeats itself, and the lower point of the curve at the end of the second period, when compared with that at the end of the first period, signifies the cumulative fatigue of the day. The rise in the curve of each spell is often called the "practice effect." In occupations distinguished by their muscular character, the output curve seems to show progressive fatigue. Where work is monotonous and frequently broken by natural pauses a curve may be obtained which for both working spells is nearly straight, showing a slight practice effect, but no fatigue. The American committee found another type of output in which the total daily production of the individual from day to day and from week to week shows a striking uniformity. The inference is that the workers are not working to their full capacity. Individual curves sometimes show a marked spurt before the close of the spell, evidently intended to make for a certain production before closing time. To what extent fatigue enters into work in which this type of curve is found is a subject, Lee says,

for further study. The point in the study has not yet been reached when it can be said which curves of output represent the ideal. Experiment is needed. A genuine, pronounced fatigue fall in the curve indicates cessation of work. In England in the beginning of the war the feverish haste, the lengthening of the daily schedule of labor, the overtime and Sunday work, all soon produced a condition of excessive fatigue. In America a closer adherence to established custom and to the legal hours for labor in most factories has so far apparently prevented the appearance of conditions of excessive fatigue. The American committee discovered that in one large munition factory on a night shift of twelve hours, after 5 a. m. the curve of output showed a rapid decline, and during the last forty minutes there was very little or absolutely no production. Evidence collected by the British committee in specific instances showed in one that a reduction of twenty hours in the weekly working time resulted in an actual increase of 9 per cent. in output, and a reduction of the hours in another instance from 58.2 to 51.2 resulted in an increase of 21 per cent. in the output.

The conclusions, as given by Lee, are that the interest of large output requires keeping the hours down to what experience has shown to be a reasonable limit, and choosing this limit in accordance with the fatiguing effects of the different specific occupations; that recess periods should be introduced into long spells; that Sunday labor should be omitted, and that overtime in emergencies should be compensated by free time later; that each worker has a rhythm best adapted to his own human machine, and it is advantageous to place in squads doing specific tasks workers having similar rhythms, eliminating faster and slower individuals, and then adjusting the speed to the common rate.

New Food Products

Recent *Commerce Reports* contain information concerning new fishes and other food products, the use of which, as foods, is being encouraged by government authorities. Economic Circular 32 of the U. S. Bureau of Fisheries, issued October 10, urges the greater use of whiting as a good food fish that is not adequately utilized. It is said that if consumers would make inquiries for this fish, either fresh, frozen, canned, salted or smoked, it would encourage dealers to stock it. Numerous recipes for cooking whiting are given in the circular.

During the summer of 1916 in the laboratories of the Bureau of Fisheries at Woods Hole, Mass., the use of shark flesh for food was tried. It is said that six species of sharks, including the sand shark, have been tested as foods, the meats having been eaten by about fifty persons. The meats of these species were pronounced not only good, but especially pleasing in flavor and texture. Methods of smoking and salting have been worked out. Shark meat, it is said, is best salted dry, since in any wet process it has a tendency to develop a disagreeable ammonia smell. Not having a great amount of oil, shark meat is not an ideal meat for smoking. When a light smoke is applied for about three days, shark meat makes an agreeable product which is said to keep well.

The *Fisheries Bulletin* for June, 1917, has an article on the use of whale meat as food. Porpoises and dolphins have also been recommended as important sources of human food. In May, 1917, fresh whale meat was on sale in Seattle, and whale steaks were served in hotels and restaurants in that city. The Pacific Whaling Company at Grays Harbor, Washington, finds a ready market for whale meat. In San Francisco, whale meat was on sale in August at 22½ cents a pound. It was being served in the leading hotels. The meat has also been placed on the market canned, in which form it was sold at the time of the report at from 10 to 15 cents a pound.

The U. S. Bureau of Fisheries has sent representatives into the South Atlantic gulf states in an effort to increase the production and consumption of smoked fish. These representatives are equipped with a small portable smoke house of recent design, and are prepared to instruct persons desiring to develop the smoked fish industry. They are giving special attention to the smoking of menhaden, sharks, and other species common to this region. Smoked shrimps have been found to be especially palatable.

In British Columbia, the canning of evaporated vegetables is becoming a considerable industry. The product of one concern called "Julienne mixture," six vegetables all canned together, consists of first quality carrots, turnips, potatoes, onions, peas and beans. The vegetables are evaporated separately, after being properly prepared, as each requires a different degree of heat in its evaporation. They are packed in tins containing 15 pounds, various proportions of the different vegetables being included in each tin. Large contracts for Army use have been filled, and it is said that not a single can of the product has been thrown out by the British inspector at Montreal.

The Department of Agriculture of Trinidad, British West Indies, has published a bulletin on the use for bread making of various meals made from products of the tropics, such as bananas, plantains, tannias, dasheens, sweet potatoes, yams and breadfruit. All the meals, it is said, can be readily prepared in any household without the use of expensive machinery at a cost of from 1½ to 2½ cents a pound in small quantities. Tests show that all the meals excepting breadfruit meal make a palatable bread when mixed with equal parts of wheat flour. Two parts of the meal may be used to one part of flour, but this makes a darker and heavier bread. Bread can be made with all of these meals with yeast or baking powder, but difficulty is sometimes experienced with yeast. Banana meal is recommended as being probably the one that will be most generally used and the cheapest to produce. A bread made from sweet potato flour is said to be perhaps the best, the bread being light brown, of a pleasant, sweet flavor, and very light.

Wood Alcohol

Dangers in the manufacture and use of wood alcohol are set forth in a special Bulletin 88 of the New York Department of Labor, December, 1917, prepared by the Division of Industrial Hygiene. In New York there are twenty-eight establishments for the manufacture of wood alcohol, employing 400 persons. Many of the stills are of rather crude construction, and in a number of them the processes are not well guarded, so that poisoning and accidents in the way of explosions and fires occur. As is known, blindness and death occur from inhaling the fumes of wood alcohol, and symptoms and physical deterioration of less extreme degree occur among the workers, including headaches, dizziness, conjunctivitis and dematoses, both among the employees in the stills and among those in industries employing wood alcohol. Among the latter are breweries, where the alcohol is used in varnishing the interior of vats, and from which a considerable number of deaths have occurred in New York, according to the bulletin; hat manufacturing, in which the alcohol is used in shellac for stiffening frames, artificial flowers, etc.; pencil manufacturing, furniture varnishing, picture frame factories, and in the manufactories of varnishes, in all of which industries the alcohol is used for the most part in dissolving the gums and shellacs in varnishes. In some industries, ethyl alcohol denatured with wood alcohol is used; but this product, if it contains as much as 5 per cent. of wood alcohol, is as dangerous as the wood alcohol itself. A number of cases of poisoning, with death, blindness and other disability, are set forth in the report. Rules proposed by the department for eliminating the dangers of handling wood alcohol are proper provision for ventilation in factories in which wood alcohol fumes exist to the extent of 1 part in 10,000 volumes of air; the labeling of all receptacles containing wood alcohol, calling attention to its poisonous nature; in processes requiring contact of the hands with the alcohol, the use of impervious gloves, to be furnished and kept in good condition by the proprietors; gas helmets for use in entering stills, retorts or brewery vats, etc., with fresh air supplied through a hose; and the posting of printed signs in factories and work rooms, calling attention to its dangerous nature.

Medicolegal

Catching of Nerve in Fracture—Evidence—Failing to Use Roentgen-Ray Machine

(Ingwersen vs. Carr & Brannon et al. (Ia.), 164 N. W. R. 217)

The Supreme Court of Iowa, in reversing a judgment obtained by the plaintiff and remanding this cause for a new trial, says that the petition alleged that the plaintiff sustained a fracture of his left arm, the humerus being broken at the juncture of the upper and middle thirds, and the broken ends of the bone being so separated and not in apposition that the musculospiral nerve was drawn in between the pieces of bone. There was evidence that, to show the plaintiff's daughter where the break was, the defendant then in attendance, who had given the plaintiff an anesthetic, raised the arm on a level with the shoulder, then straightened out the arm, and applied splints and a bandage. The plaintiff's theory was that the oblique fracture of the humerus involved the musculospiral groove, containing the nerve, and that when the defendant manipulated the arm, and bent it at the point where it was broken, the nerve slipped in and was caught when the two pieces of bone closed up, and that it was negligence to fail to find out that the nerve was caught before the splints and bandage were applied, which should have been done by the getting of crepitus. For the defendants there was evidence which tended to show that crepitus was obtained, the fracture reduced, temporary splints applied, the forearm and hand placed in a sling, and the arm encased in a muslin swath extending around the body. The defendants contended that the plaintiff had two injuries—the fractured humerus and an injury to the nerves; that they treated the fractured humerus and treated the nerve expectantly; that is, waited to give Nature a chance to clear up the paralysis without surgical interference, relying on Nature to clear up the injury to the nerve. The discovery of the musculospiral nerve between the broken ends of the bone was made by another surgeon, who cut down on the fracture something like eight weeks after that was sustained, and the defendants contended that the fact that the nerve was between the broken fragments of the bone then did not tend to prove that it was there two months before, when the arm was first dressed by the defendants; that presumptions do not relate backward. But the court thinks there were circumstances which tended to show, and from which the jury could have found, that the nerve was caught prior to or at the time of the defendants' first visit. There was a conflict in the testimony which made this a jury question.

The jury was instructed that it was not to take for granted that the statements contained in the hypothetic questions were true, but that it should scrutinize the evidence and determine what, if any, averments were true, and that if it should find that some of the material statements were not correct and were of such a character as entirely to destroy the reliability of opinions based on the hypothesis stated, it might attach no weight whatever to the opinions based thereon; that an opinion based on a hypothesis wholly incorrectly assumed, or incorrect in its material facts, and to such an extent as to impair the value of the opinion, is of little or no value. It was contended that the jury should not be permitted to determine the materiality of assumed facts incorporated in hypothetic questions; that the materiality of such facts is a question to be determined by the court; and the supreme court holds that it was for the error in this instruction that the case must be reversed.

It was also error not to permit the defendant who performed the most of the services in the treatment of the plaintiff to be asked as to whether the best of his professional ability was brought to bear on the case; whether or not he exercised his best skill and knowledge in the treatment of the case; and what was the fact about his having exercised the utmost good faith as well as his best skill and ability in the treatment of this case. These questions were not leading or suggestive, nor did they call for the conclusion of the witness.

There was no error in admitting evidence as to there being roentgen-ray machines in the town in which the defendants were practicing that were available to them. That they did not use a roentgen-ray machine was a circumstance to be considered by the jury as bearing on the question as to whether they failed to use ordinary care to discover that the nerve was caught.

Prohibiting Public Gatherings to Prevent the Spread of Disease

(Community Chautauquas, Inc., vs. Caverly et al. (U. S.), 244 Fed. R. 893)

The United States District Court in Vermont dissolves a restraining order, and denies a preliminary injunction in this action to restrain the enforcement of an order of the board of health of the state of Vermont, dated July 17, 1917, directing that "no fairs, Chautauquas, street carnivals or circuses be held in the state of Vermont until further notice." The plaintiff, which owned and gave that form of entertainment known as a Chautauqua, and had a large number of contracts to give such entertainments in Vermont during the summer season of 1917, asked that the defendants, who were all of the health officers in the state in regions in which it was intended to hold Chautauquas, be restrained from making or enforcing any order designed to prevent the performance of such contracts. It was admitted that the reason for the order in question was, as set forth therein, a belief that "large general gatherings of people . . . have distributed" the infection of infantile paralysis. But the plaintiff complained that the order unjustly discriminated against it and its entertainments, for public gatherings induced by an intellectual entertainment such as a Chautauqua do not tend to spread infection, and that such is the opinion of some physicians.

Thus, the court says, the question primarily presented was whether the professional opinion of a board of physicians, honestly exercised, should be overturned by the chancellor on the ground that it was "unreasonable." Undoubtedly there are cases wherein police regulations cannot be held justifiable unless there are reasonable grounds for a belief that the necessary protection of the public health requires their passage. This is a simple doctrine, and means no more than that it is the duty of the court to examine into the facts of every case, and if a responsible, honest and presumably reasonable body of professional opinion is found on the side of the regulation, it is the duty of the court to uphold it, even though the chancellor should entertain the view of professional dissidents. The point is not whether the court agrees with the professional conclusion of a body of physicians, or engineers, or clergymen, but whether it is evident that the professional view is a reasonable view for men of the proper profession to entertain. They may be wrong, but is there any reasonable probability of their being right? If that question is answered in the affirmative, the professional regulation cannot be said to be unreasonable, as a matter of law. The court, therefore, is not called on to come to any conclusion whether the propagation of poliomyelitis is actually assisted by crowds; but it is persuaded that (1) a very responsible body of professional opinion is that way; (2) the Vermont board of health shares that view; (3) it has just as much right to entertain that view as the court has to entertain an opinion on a point of law, and (4) such a point of view cannot be held to be unreasonable.

That the prevention of disease, or its spread, by any means based on responsible medical opinion is a competent and constitutional exercise of police power is a proposition so plain as scarcely to require citation. And that the board of health acted within its statutory authority is plain from Chapter 194, Vermont Laws of 1917, which explicitly authorizes local health officers to forbid and prevent the assembling of people in any place, when the state board of health deems that the public health and safety so demand. This is not a delegation of lawmaking authority; for the assembly laid down the law, but intrusted its application to medical men who would presumably be better informed as to local conditions. No constitutional rights of the plaintiff were invaded.

Therefore the application cannot be granted, a result the more willingly reached because the papers presented (especially the results of poliomyelitis observations in Vermont for some years past) conclusively show to the court that the moves of this mysterious disease are so little understood that any honest medical efforts to effect its extermination should meet assistance rather than hostility.

Jurisdiction of Prosecutions for Illegal Practice of Medicine

(State vs. Amsden (Ore.), 166 Pac. R. 942)

The Supreme Court of Oregon affirms a judgment sustaining a demurrer to the charge against the defendant of practicing medicine without a license, on the ground that the circuit court did not have original concurrent jurisdiction of the subject-matter of the action, inasmuch as the statute regulating the practice of medicine and surgery provides that justices of the peace and the respective municipal courts shall have jurisdiction of violations of the provisions of this act. The court says that the amendment of the statute in 1895, giving inferior courts jurisdiction of alleged violations of the act regulating the practice of medicine and surgery, was probably induced by the fact that, in some of the counties of the state where terms of the circuit court were held only biennially, unlicensed persons pretending to be practitioners of medicine would pursue their assumed vocation in some village or hamlet until the grand jury convened, when the pseudodoctors would suddenly leave and seek other fields for exploitation. In order to prevent such illegal practice and speedily to convict and punish persons for violating the provisions of the act, the legislative assembly altered the statute and conferred on justices' courts and municipal tribunals jurisdiction of such offenses.

Interest on Physician's Account from Verdict Only

(Gearhart vs. Hyde (S. D.), 164 N. W. R. 58)

The Supreme Court of South Dakota holds that ordinarily interest is not allowable on a physician and surgeon's account, except from date of verdict. The court says that this action was brought to recover on an account the value of certain services performed by the plaintiff as a physician and surgeon in treating and caring for a minor son of the defendant, who had received an injury by coming into contact with an electric light wire. The plaintiff alleged that such services were performed on the express request of the defendant, and were reasonably worth $9,400. The defendant admitted that the services were performed on his request, and alleged that they were worth not to exceed $350. The account was closed, Dec. 9, 1912, that being the date when the plaintiff ceased performing professional services under the contract. The jury was instructed that the plaintiff was entitled to recover interest at the rate of 7 per cent. per annum from Dec. 9, 1912, to the date of the verdict, on whatever amount they should determine was due him, and they allowed him $2,600 as the value of his services, and $491.40 interest. The supreme court holds that the giving of this instruction was error, and that the plaintiff should be allowed only the $2,600, with interest thereon from Aug. 21, 1915, the date of the verdict.

Ordinarily, under the provisions of the Civil Code of South Dakota, money due and payable on an account draws interest from the date of the ascertainment of the balance or amount payable thereon. In many jurisdictions it seems to be held that when the value of the services, or other subject of account, is readily ascertainable by either party by resort to well known and fixed standards of customary or market values, such an account will draw interest from the time that the amount payable thereon should have been ascertained and paid; but when the value of the services performed, or other subject of account, is of such a nature and character as not to be susceptible of ascertainment by computation, or by reference to well known standards of market values, the plaintiff is not entitled to interest prior to the verdict.

This court is of the opinion that the character of the services performed by the plaintiff in this case was of such a nature that the value thereof was not susceptible of ascertainment by computation, or by reference to well known standards of value, and that, therefore, no interest could accrue on the plaintiff's claim until the amount had been ascertained by a jury, or by an accord between the parties. In such cases the criterion or test as to whether interest will run or not, prior to the verdict, is not to be determined alone from the fact that the parties have been unable to agree on the amount payable. Neither should a defendant be relieved from paying interest by reason of the fact alone that the plaintiff made too large a demand. But the true test is whether or not the balance or amount payable can be readily ascertained by resort to standard or customary market values. This case clearly falls within the class in which interest is not allowable prior to the verdict, except by accord between the parties.

Not Practicing Medicine

(Martin vs. Commonwealth (Va.), 93 S. E. R. 623)

The Supreme Court of Appeals of Virginia reverses a judgment of conviction of defendant Martin of practicing medicine without first having procured a certificate from the board of medical examiners. The court says that the essential facts were these: The accused was graduated from a Kansas school with the degree of "Doctor of Optometry." In March, 1912, he obtained for himself and his associates a charter of incorporation under the name of "Dr. Harry Martin, Incorporated." The principal office of the corporation was located in the city of Roanoke, and its chief business was manufacturing and dealing in optical goods. The accused, at the time of the prosecution, was a nonitinerant optician engaged in the practice of optometry, and had been so employed since the year 1884. He had the following display letters on the front door and windows of his place of business: "Dr. J. Harry Martin, Incorporated, Eyes Exclusively," and "Dr. J. Harry Martin, Incorporated, Optometrist." It did not appear that he had ever practiced or offered to practice medicine or surgery, either in the city of Roanoke or elsewhere. On this evidence the trial court, over the objection of the accused, instructed the jury that, if they believed from the evidence that he had used the display letters and words indicated above on the door and windows of his shop, then, as a matter of law, he was practicing medicine, and was guilty as charged in the indictment. The prosecution was founded on Chapter 84, Section 12, Acts of 1916, pp. 138, 147. The parts of Section 12 held to be applicable to this case read as follows:

> *Definition of Practice of Medicine.*—Any person shall be regarded as practicing medicine within the meaning of this act . . . (2) or who shall use in connection with his name the word or letters "Dr.," "Doctor," "Professor," "M.D." or "Healer," or any other title, word, letter or designation intending to imply or designate him as a practitioner of medicine in any of its branches, or of being able to heal, cure or relieve those who may be suffering from injury or deformity or disease of mind or body. This section shall also apply to corporations.

If, standing alone, the display signs or letters employed by the accused could be said to bring him within the condemnation of Section 12 (which the court need not decide), nevertheless, when that section is read in connection with Section 11, it is quite clear that he was not guilty of the offense of which he was convicted. Under "Exemptions from Examinations—Exceptions," Section 11, after declaring: "Nothing in this act shall be construed to affect commissioned or contract medical officers serving in the United States Army," etc., continues: "Or any nonitinerant person or manufacturer who mechanically fits or sells lenses, artificial eyes, . . . or is engaged in the mechanical examination of eyes for the purpose of adjusting spectacles, eyeglasses or lenses." Thus it plainly appears that the business or avocation of the accused is included in the foregoing exemption or exception, and that he was not amenable to this prosecution. The court also directs attention to Acts of 1916, Chapter 148, p. 251, which defines and regulates the practice of optometry, and makes provision for the establishment of a board of examiners in optometry, etc. For these reasons, the judgment of the corporation court of the city of Roanoke must be reversed, and the case remanded for further proceedings.

Society Proceedings

COMING MEETINGS

American Medical Association, Chicago, June 10-14.

Alabama State Medical Association, Birmingham, April 16.
Am. Assn. of Pathologists and Bacteriologists, Philadelphia, Mar. 29-30.
American Orthopedic Association, Washington, D. C., April 22-23.
Georgia State Medical Association, Savannah, April 17-19.
Kansas Medical Society, Kansas City, May 1-3.
Louisiana State Medical Society, New Orleans, April, 16-18.
Maryland Medical and Chir. Faculty of Baltimore, April 23-25.
North Carolina State Medical Society, Pinehurst, April 16-18.
South Carolina Medical Association, Aiken, April 16-18.
Tennessee State Medical Association, Memphis, April 9-11.

NEW YORK ACADEMY OF MEDICINE

Meeting held Feb. 7, 1918

The First Vice President, Dr. George D. Stewart, in the Chair

The program of this meeting was furnished from the Camp Upton Base Hospital, Major J. Whitham, commanding.

Classification and Results of Treatment of Pneumonia at Camp Upton

Capt. Russell L. Cecil: Health conditions at Camp Upton have been unusually good. It was not until the arrival of the colored troops from the South that there was an increase in the morbidity rate of the camp. The incidence of pneumonia by months was: October, 1 case; November, 4; December, 47, and January, 46 cases. The maximum number of troops in the camp was 35,000, the number of colored troops 3,500; yet 50 per cent. of the pneumonia cases have occurred among this 10 per cent. of the troops. Of the 100 cases of pneumonia, 75 were primary and 25 secondary, 19 of the latter following measles. Five of those following measles were streptococcus pneumonias. The classification of pneumonia cases according to the causative agent, comparing the Rockefeller series of cases with the Camp Upton series, showed that the pneumococcus was the cause of pneumonia in 94.50 per cent. of the Rockefeller cases and in 67.79 of the Camp Upton cases; the streptococcus was the causative agent in 3.1 per cent. of the Rockefeller cases and in 24.7 per cent. of the Camp Upton cases; the influenza bacillus in 1.2 per cent. of the Rockefeller series and in 2.2 per cent. of the Camp Upton series. There have been no cases in the Camp Upton series due to the Friedländer bacillus or the *Staphylococcus aureus*, though each of these organisms caused 0.6 per cent. of the Rockefeller series. The *Micrococcus catarrhalis* was not found as the causative agent in any of the Rockefeller group, while it caused 5.4 per cent. of the Camp Upton cases. The incidence of the four types of pneumococci in the Rockefeller groups of cases was, respectively, 33.9, 31.9, 12.9 and 24.9 per cent., while the relative incidence of the four types in the Camp Upton series was, respectively, 27.9, 12.79, 9.5 and 50.8. The average duration of the disease with each type of pneumococcus was: Type I, seven days; Type II, six and one-half days; Type III, six days, and Type IV, six and one-half days. There were a larger number of Type IV pneumonias than in civil life, and the cases of this type were a little more severe than in civil life. Of the twenty-three streptococcus cases, 24 per cent. were hemolytic and 76 per cent. nonhemolytic. The mortality rates for the different types were: Type I, 5.8 per cent.; Type II, 0.0; Type III, 16.6; Type IV, 18.7 per cent. The mortality of the streptococcus cases was 30.4 per cent. For the treatment of the cases the government supplied a Type I serum and a polyvalent serum (Mulford). We have tried one or the other of these serums in nearly all of the pneumococcus pneumonias, the serum being employed in 77 per cent. of all cases. Five-tenths c.c. of normal horse serum was given several hours before the administration of the antipneumococcus serum as a protection against anaphylaxis. In many of the streptococcus cases, as well as in the different types of pneumonia cases, the administration of the serum was followed by a marked drop in the temperature, which appeared to be a sort of foreign protein reaction. The serum as shown in other series of cases is most effective in pneumonia cases due to Type I pneumococci. The most frequent complication was empyema, which occurred in 12.9 per cent. of the pneumococcus cases and in 24.9 per cent. of the streptococcus cases. There were several cases of pneumococcus septicemia and a few relapses. Serum sickness occurred in about 25 per cent. of the cases. There were two cases of acute anaphylaxis. There was a mortality of 15 out of 100 cases of pneumonia, which was a very good showing. The mortality among the white troops was 14 per cent.; among the colored troops, 16 per cent., occurring mostly among the empyema patients. The lessons to be derived from our study of pneumonia at Camp Upton are: 1. All pneumonia cases should be typed. 2. Serum should be given in all Type I cases, as there is convincing evidence that the serum is of value in these cases. 3. The serum should be given early in the disease. 4. In the streptococcus cases one should be on the lookout for empyema, and as soon as pus is detected, free drainage should be established.

Measles from the Standpoint of Military Medicine

Capt. F. J. Hackett, in Charge of the Contagious Wards: Since an Army barracks provides nearly all the conditions favorable to the development and spread of the measles, the disease is a large problem in National Army cantonments. The conditions that appear to play the most important rôle in its spread and control are (1) the character of the camp strength, whether urban or rural, and (2) early recognition with prompt and efficient methods of sanitation—of inspection, quarantine and isolation, and finally hospital treatment. That measles appears to be distinctly an urban disease is shown by the experience in a neighboring camp, in which, previous to the arrival of a large number of troops from a country district, the measles admissions were low; following the arrival of evidently nonimmune troops, the measles admission rate shot up week by week. At Camp Upton the experience has been very similar. During the fall and early winter there were few measles admissions. Since Jan. 1, 1918, the white measles cases have amounted to 25 per cent. of the total admissions, and it has been found that with one possible exception, all of these men were born or raised in rural communities, and had acquired city residence at a comparatively recent period. As a further precaution, trains arriving at Camp Upton with colored troops from measles-infected camps are inspected before the troops are allowed to detrain. With the advent of measles, the Y. M. C. A. hut was ordered closed, the post exchange was allowed to serve but two men at a time, and the regimental infirmaries were kept free from visitors. Measles patients returning to duty have been observed to fall easy victims of pneumonia; for this reason the Surgeon-General's Office has ordered measles patients held on the sick list two weeks longer than the usual quarantine period. Sixty measles patients have been admitted to the isolation wards of Camp Upton between Sept. 1, 1917, and Feb. 1, 1918. Medical treatment is purely symptomatic; a close watch is kept for pulmonary complications. Of the sixty admissions, pneumonia—probably bronchopneumonia, but massive and simulating the lobar type—was seen in seventeen cases, or 35 per cent. When pneumonia develops, the patient is immediately removed to the measles-pneumonia ward, where slightly more air space is allowed. Type I pneumococci were found in 11.7 per cent. of the cases; Type II was not found; Type III, in 5.8 per cent., and Type IV in 35 per cent. In 17.6 per cent. of the cases, the *Streptococcus viridans* was found, and the *Micrococcus catarrhalis* in a like percentage of the cases. There was but one death among the pneumonia patients following measles.

Hyperthyroidism in the Recruit

Major Harlow Brooks, Chief of the Medical Service of the Camp Upton Base Hospital: One of the greatest medical surprises to which I have been treated since on active service has been the large number of cases of hyperthyroidism, which in civil life I considered almost exclusively a disease of women, and particularly of women rather unstable in their youth. I lay no claim to having made a discovery in bringing this type of cases to your attention, for the British have described the same condition as the effect syndrome, or as

"D. A. H."—discovered action of the heart. This group of circulatory phenomena form an important and inseparable part of that condition known as shell shock, which occurs in many persons who have never heard the sound of a shell, but more particularly among many who most earnestly desire never to do so. The most striking feature of these cases in nearly every instance is tachycardia, this being the symptom which brings the patient to the regimental officer. This symptom is present alike in recruits presenting themselves for initial examination and in those who report later after army routine may have further served to upset their emotional and circulatory equilibrium. The tachycardia is rarely accompanied by arrhythmia; the rate is practically always increased by exercise, though in exceptional cases it may be slowed by exercise, particularly when the attention is distracted. Other symptoms observed are a throbbing of the superficial vessels, notably the carotids, brachials, and even the femorals; in thin persons that of the aorta is also evident. The polygram would absolutely differentiate this condition from aortic incompetence. The heart sounds are usually difficult to analyze, though in a good many cases there is a soft systolic murmur at the apex, transmitted at times with decreasing intensity toward the axilla. There are many symptoms apparently secondary to the tachycardia. The capillary return is almost always delayed, and a capillary pulse is simulated. Patients frequently complain of an oppressive bursting pain in the region of the heart, and one is often able to demonstrate areas of hyperesthesia. Other symptoms are rapid flushing and paling, fainting and dizziness. The blood pressure is very low except in hypersensitive patients. Epinephrin causes an increase in the symptoms, and there is apparently a hypersensibility to thyroid. The nitrites markedly increase the symptoms, and there is hypersensibility to vasomotor dilators. The tachycardia cannot be controlled by digitalis. The sedatives, notably the bromids, give marked relief in some instances, but are apparently without effect in others. Next to the tachycardia, the manifestation that is most striking is the emotional instability, which is an invariable accompaniment of this disease. This is manifested in epileptoid attacks, outbursts of passion, tears, profanity, or possibly convulsive muscular spasms. Outbursts of emotionalism are followed by a stage of great exhaustion in which the patient may be so prostrated as to appear moribund. Neurovascular instability may be further shown by the tache cérébrale, by dermographia, by urticarial rashes, and by the almost constant symptom of tremor. A very certain index of the strong emotional element in the disease is furnished by the types of nationalities chiefly affected. The Jews lead with 50 per cent. of the cases which have come under my observation, then next in the order come the Italians, the Irish, and last of all the negroes, among whom in about 5,000 recruits only a single case, and that one questionable, was seen. Most of the patients are above the average in mental acuity, and the condition is lamentably frequent among promising material for noncommissioned officers. In about two thirds of these cases one may see a definite thyroid hypertrophy, or at least a prominence of the thyroid. A notable factor having direct bearing on the question of the rôle that hyperthyroidism plays in this condition is the certain part that heredity plays in the syndrome. A very considerable number of the cases give a history of ancestral goiter, particularly on the maternal side. There is also in most instances a familial history of hysteria, insanity, perversions, or of genius. Exophthalmos is present in the long standing cases. Thus it may be seen that these cases present all the cardinal symptoms of true exophthalmic goiter. Rest is the one factor that relieves these patients, and mental and emotional rest is second in importance. The rôle that emotional shock, fright or mental traumatism plays in the activation of exophthalmic goiter is too well established to admit of question, and explains the reason so many of these cases occur among young men of draft age. Thus far the question has been as to whether the subjects have the making of soldiers in them. Many of these patients recover under the really healthful and normal routine of camp life. If in these cases careful training is imposed, not too severe, until the recruit is prepared for heavy work; if the worry and strain are sufficiently relieved by reaction, by games, camp shows, etc., these men—often of the finest patriotic and spiritual fiber—are certain to make good soldiers; but if they are unhappy, or if overheavy or premature work is imposed, the recruit either may break nervously, or cardiac incompetence may ultimately develop.

Auto-Inoculation in Syphilis

CAPT. JOSEPH KLAUDER, Philadelphia, in Charge of the Syphilis Ward: A review of the literature shows that persons infected with syphilis are susceptible to a second inoculation or superinfection with syphilis, not only during the period elapsing between the infection and the appearance of the chancre, but also at periods shortly subsequent to the appearance of the primary sore. In my analysis of 200 cases of chancre, 24 per cent. were found to be multiple; in some of these cases, according to the statement of the patient, the second lesion appeared subsequent to the first. The cases that I am herewith reporting are probably instances of superinfection with syphilis. The possibility of superinfection should be considered in the diagnosis of a genital lesion containing the spirochetes when appearing in a person giving a history of having had the disease. If in such a lesion the spirochetes are found in profusion and the Wassermann reaction is at first negative, later becoming positive, it is evidence of the lesion being a primary sore, a reinfection; whereas if the spirochetes are present in scant numbers and the Wassermann reaction is positive at the time of its appearance, it is evidence of a possible superinfection. Genital lesions that I have observed and regarded as superinfections were papular ulcerative and ulcerative in type, with slight induration; they were clinically not chancre. It is probable that many so-called second attacks of syphilis, or reinfection, are cases of superinfection. There is nevertheless evidence that so-called secondary attacks of syphilis may at times occur. By a second attack should be understood the occurrence, twice in a patient's life, of a primary sore followed by secondary symptoms; and if this definition were accepted, the phenomenon would be rather rare. In the differential diagnosis of genital lesions of the nature herein considered, besides reinfection and superinfection, the following possibilities should be considered: (1) ulcerative processes over foci of syphilitic lymphangitis on the penis, which might in rare cases simulate a recrudescence of the primary sore; (2) a mucous patch or an abrasion; (3) a localization of spirochetes at the point of lessened resistance as the result of trauma. Trauma in a syphilitic subject is often the determining point for the development of gumma.

DISCUSSION

DR. SIMON BARUCH: I may be able to throw some light on Dr. Brooks' paper by mentioning the fact that in my experience in a number of institutions in this city I have seen this type of cases with enlarged thyroid and the same type of nervous instability which has been described by Dr. Brooks, and I have observed that the mental condition of the patient is frequently responsible for intensifying the symptom. Such persons may go along fairly well until they are subjected to some great nervous or emotional strain, and immediately this will bring out more active symptoms of thyroid disease.

DR. WILLIAM P. NORTHRUP: I have been trying for many years to keep measles out of institutions, and have found it a most difficult thing to do when there are large groups of children in one building and new groups are frequently introduced. When an epidemic starts in a large institution, it seems that nothing will stop it until it has run its course. In order to see whether these children with measles could be kept from having complications and also to prevent the spread of the disease, Dr. Freeman tried keeping measles patients outdoors, and he found that the children treated outdoors did better than those treated indoors. When a case of measles occurs among the Indians, they place the patient in a tightly closed tent and keep a pot of water boiling with a brick in it. Under this treatment nearly every measles patient dies. I should like to know whether Captain Hackett has made any comparison of the results of treating measles in the adult indoors and in the open air.

Dr. William M. Leszynsky: From my observations I feel confident that it is the emotional strain rather than a disturbance of the thyroid secretion that is responsible for the symptoms described. Many of these men who have been under observation will never reach the other side, and I feel that it will be an advantage to the government if they do not get over, because men showing this instability are more likely than others to suffer from war neuroses. It would be interesting to know what percentage of these men have been found suitable for the Army when the tachycardia has disappeared.

Major Harlow Brooks: A small percentage become fit for military service, but many may be found useful to the government in other lines of work.

Capt. F. J. Hackett: In reply to Dr. Northrup's question I would say that we treat all measles patients in warm, well ventilated wards. I believe this is the reason our mortality has been so low. I had one man with measles who developed a *Micrococcus catarrhalis* pneumonia in a poorly warmed ward. He was removed to a warm ward and the improvement that followed was remarkable.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Ophthalmology, Chicago

Jaunary, 1918, **1**, No. 1

1 Essential Atrophy of Iris. M. Feingold, New Orleans.—p. 1.
2 Luxation and Avulsion of Eyeball During Birth. H. Friedenwald, Baltimore.—p. 9.
3 Aneurysms of Retinal Arteries. J. E. Jennings, St. Louis.—p. 12.
4 Primary Syphilis of Palpebral Conjunctiva. E. E. Maxey, Boise, Idaho.—p. 13.
5 Cyst of Dural Sheath of Optic Nerve. W. C. Bane, Denver.—p. 17.
6 Adaptability of Phoro-Optometer Stereoscope for Haitz and Bissell Charts. D. W. Wells, Boston.—p. 20.
7 Massive Spontaneous Hemorrhages into Vitreous. L. F. Appleman, Philadelphia.—p. 24.
8 Rise and Progress of Ophthalmology as Specialty in Philadelphia. S. D. Risley, Philadelphia.—p. 28.
9 Composite Ophthalmia Neonatorum Law. T. H. Shastid, Superior, Wis.—p. 43.

Annals of Ophthalmology, St. Louis

October, 1917, **26**, No. 4

10 Ocular Palsies in Infantile Paralysis; Report of Two Cases. A. C. Sautter, Philadelphia.—p. 541.
11 Case of Cavernous Angioma of Orbit. B. Chance, Philadelphia.—p. 547.
12 Treatment of Trachoma with Bulgarian Bacillus Culture. J. P. Crawford, Nashville, Tenn.—p. 557.
13 Inflammation of Conjunctiva Resembling Trachoma. C. J. Broyles, Johnson City, Tenn.—p. 560.
14 Transitory Hyperopia in Diabetes. F. A. Kiehle, Portland.—p. 564.
15 Cocain Keratitis. R. I. Lloyd, Brooklyn.—p. 568.
16 Case of Hereditary Bilateral Upward Coloboma of Iris with Remarks on Hereditary Blindness. C. Loeb, Chicago.—p. 573.
17 Treatment of Vitreous Opacities. W. H. Peck, Chicago.—p. 580.
18 History of Operation for Cataract. W. H. Crisp, Denver.—p. 585.
19 Comparison of Results of Elliot Trephine Operation and Iridotasis, on Same Patient, for Relief of Glaucoma. T. H. Odeneal, Beverly, Mass.—p. 601.

Boston Medical and Surgical Journal

Feb. 14, 1918, **178**, No. 7

20 Suggestions on Care of Mental Cases. F. H. Packard, Waverley.—p. 211.
21 Relation of Industrial Surgeon to Industry and to Society. J. F. Curran, Worcester.—p. 215.
22 Organized Provision for Care of Sick in Massachusetts. G. E. Whitehill, Everett.—p. 217.
23 *Gastroduodenal Perforation: New Diagnostic Sign. M. T. Field, Salem.—p. 220.
24 Differentiation of Streptococci. D. M. Lewis, New Haven, Conn.—p. 222.
25 Case of Severance of Chorda Tympani Nerve. I. Sobotky, Boston.—p. 224.

23. **Gastroduodenal Perforation.**—Of aids to diagnosis of gastroduodenal perforation that are independent of parietal peritoneal pain and sensitiveness, Field regards the presence of free air in the peritoneal cavity as being the most important. Every perforation large enough to allow fluid to escape, also allows some gas to pass through. When air is free within the peritoneal cavity, in sufficient amount, it may pass between the liver and diaphragm, causing obliteration of liver dulness. Roentgen-ray examination verifies this. Study and experience have led Field to the conclusion that obliteration of liver dulness is not so much absolute as relative, and depends much on the position in which the patient is examined. This practical point may be of the greatest value in differential diagnosis.

Cleveland Medical Journal

January, 1918, **17**, No. 1

26 Calcium Deposit in Tendon Sheath, Simulating an Osteoma. L. A. Pomeroy, Cleveland.—p. 1.
27 First Signs of Insanity. H. H. Drysdale, Cleveland.—p. 6.
28 Effect on Eye of Tincture of Iodin. R. B. Metz, Cleveland.—p. 18.
29 Two Cases of Cerebellar Abscess and One of Epidural Abscess of Otitic Origin, Presenting Similar Symptoms. D. A. Prendergast, Cleveland.—p. 20.

Journal of Bacteriology, Baltimore

January, 1918, **3**, No. 1

30 Toxicity of Victoria Blue 4 R. for B. Paratyphosus A and B and B. Enteritidis. O. Teague, New York.—p. 1.
31 Automatic Water Level for Arnold Sterilizers. I. C. Hall, San Francisco.—p. 7.
32 *Aerobic Spore-Forming Bacillus Giving Gas in Lactose Broth Isolated in Routine Water Examination. E. M. Meyer, Cincinnati.—p. 9.
33 *Simple Method for Classification of Bacteria as to Diastase Production. P. W. Allen, Urbana, Ill.—p. 15.
34 Simple and Practical Medium for Differentiating B. Typhosus, B. Paratyphosus A and B. B. Enteritidis and B. Coli. K. I. Morshima, New York.—p. 19.
35 New Apparatus for Obtaining Simultaneous Cultures of any Desired Age for Comparative Study. R. G. Perkins, Cleveland.—p. 23.
36 Studies in Nomenclature and Classification of Bacteria. R. E. Buchanan, Ames, Iowa.—p. 27.
37 Study of Green Fluorescent Bacteria from Water. F. W. Tanner, Urbana, Ill.—p. 63.

32. **Aerobic Spore Forming Bacillus.**—An aerobic bacillus giving gas from lactose, and demonstrated to be spore forming, has been isolated by Meyer eight times between January 30 and April 20, 1917, from the tap water of Newport, Ky. This organism is believed to be a species whose isolation has never before been described.

33. **Classification of Bacteria as to Diastase Production.**—During the last two years in the Dairy Bacteriology Laboratory of the University of Illinois the use of potato slants for the determination of diastase production by bacteria has been replaced by a simple plate method as follows: A starch agar is made by adding 0.2 per cent. of water soluble starch to the regular plain agar. This starch agar can be sterilized in the autoclave along with other mediums. Some hydrolysis takes place, but not enough to interfere with the test. The agar is poured into Petri dishes and allowed to cool, when a stroke 2 inches long is made with a loopful of an agar slant growth of the organism to be tested. The plates are incubated for two days at 37 C. and five days at 20 C., after which they are flooded with a saturated solution of iodin in 50 per cent. alcohol. A clear area about the stroke averaging more than 2 mm. in width classifies the diastatic action as strong, while a width of 2 mm. or less marks it as feeble and the absence of a halo as absent.

Journal of Cancer Research, Baltimore

January, 1918, **3**, No. 1

38 *Experimental Study of Pathogenesis of Carcinoma. K. Yamagiwa and K. Ichikawa, Tokyo, Japan.—p. 1.
39 *Histologic Study of Heterologous Tumor Grafts. F. D. Bullock and G. L. Rohdenburg, New York.—p. 31.
40 *Significance of Cartilage in Carcinochondrosarcoma of Mouse. W. H. Woglom, New York.—p. 47.
41 Growth of Tumors in Chick Embryo. H. N. Stevenson, New York.—p. 63.
42 *Part Played by Hydroxy-Benzol Radical in Acceleration of Growth of Carcinomas by Cholesterol and Tethelin. T. B. Robertson and T. C. Burnett, San Francisco.—p. 75.
43 Cases of Typical and Atypical Lymphosarcoma. G. M. Mackenzie, New York.—p. 93.

38. **Pathogenesis of Carcinoma.**—Papillomatous new growths (which Yamagiwa and Ichikawa's term folliculo-epitheliomas) may be produced on the rabbit's ear by the application of coal tar for thirty to 100 days. The proportion of folliculo-epitheliomas to the total number of ears treated gradually

rises. By the repeated application of coal tar, eight cases of carcinoma in its earliest stage, sixteen in an early stage, and seven complete carcinomas were produced. The carcinomatous change was discovered between the fifty-fifth and the three hundred and sixtieth day; in most of the cases it was found after the one hundred and fiftieth day. The hyperkeratotic pedunculated or sessile folliculo-epitheliomas produced by irritation with coal tar continued to grow after the irritant had been discontinued, and eventually developed into cutaneous horns. Some of these horns grew for years after the withdrawal of the coal tar, while others fell off spontaneously; in the great majority of the latter animals new cutaneous horns grew again from the same base, or from the neighboring epithelium, as is the case in man. The seventh and sixteenth cases of carcinoma in its early stage developed from cutaneous horns about 300 days after the tar had been discontinued. The presence of metastasis was microscopically proved in the regional lymph nodes in the fourth and sixth cases of carcinoma. The animals which bore folliculo-epitheliomas did not begin to emaciate while the new growth maintained its benign character. Yamagiwa's hypothesis has been confirmed: The repetition or continuation of chronic irritation may cause a precancerous alteration in epithelium previously normal. If the irritant continue its action, carcinoma may be the outcome, even though no specific agent has been interpolated.

39. **Heterologous Tumor Grafts.**—This paper records three series of experiments on closely related factors in tumor immunity: (*a*) a study of the relation between the local tissue reaction and the heteroplastic tumor graft; (*b*) the effect of removal of the spleen on the growth of heterologous tumor; (*c*) a study of the immunizing power of one heterologous tumor on the growth of a second heterologous tumor of different type, and the possible influence of splenectomy on such immunity. Bullock and Rohdenburg claim that while the death of some heteroplastic tumor grafts may, perhaps, be attributed to the action of lymphocytes and connective tissue, there is no histologic proof that it is always determined by these factors. Tumors elicit in foreign species a reaction of much the same character as that produced in homologous animals. Removal of the spleen has no influence on the receptivity of an animal toward heteroplastic tumor grafts. Splenectomy does not favor the growth of heteroplastic tumor grafts. One inoculation of a heterologous tumor does not always render an animal immune to the temporary growth of a subsequent heterologous graft.

40. **Significance of Cartilage of Carcinochondrosarcoma.**—Woglom says that the presence of cartilage in the sarcomatous portion of a carcinosarcoma in the mouse strongly suggests that the sarcomatous part was of connective tissue, rather than of epithelial origin.

42. **Acceleration of Growth of Carcinomas by Cholesterol and Tethelin.**—Robertson and Burnett summarize their work as follows: The accelerative action of cholesterol on the growth of carcinoma is dependent on the hydroxyl radical. Other hydroxy-benzol derivatives, namely, metacresol, benzyl alcohol, hexahydrophenol, borneol and inosite, do not cause any decisive acceleration of tumor growth. They infer that the accelerative actions of cholesterol and tethelin are not due to their possession of a hydroxybenzol group, but that the accelerative action of cholesterol is in some way rendered possible by its possession of a hydroxyl group. The hydroxyl group may act as an anchoring group, fixing the cholesterol to the tissue, or it may merely facilitate the distribution of cholesterol throughout the tissue fluids by rendering the cholesterol emulsifiable.

Journal of Immunology, Baltimore

January, 1918, **3**, No. 1

44 *Rapid Method for Production of Precipitin Antigen from Bacteria: An Attempt to Apply it to Determination of Type of Pneumococcus in Sputum. C. Krumwiede, Jr., and W. C. Noble, New York.—p. 1.

45 *Von Dungern's Indigo Test for Syphilis. B. Fujimoto, Tokyo, Japan.—p. 11.

46 *Extracts of Antibodies Obtained from Specific Precipitates of Typhoid Antityphoid Serum Complex. I. Weinstein, New York.—p. 17.

47 *Specificity of Intracutaneous Absorption. G. H. Smith and M. W. Cook, Glenolden, Pa.—p. 35.

48 Specific Reactions of Body Fluids in Pneumococcic Infections. G. R. Lacy and C. C. Hartman, Pittsburgh.—p. 43.

44. **Production of Precipitin Antigen from Bacteria.**—Krumwiede and Noble describe their method as follows: To a heavy suspension of bacteria in distilled water, add sufficient alkaline hypochlorite solution to give a final concentration of 5 per cent.; boil over the free flame or heat in a water bath for several minutes. If the bacteria have not dissolved, add more of the alkaline hypochlorite solution and reheat. Repeat this process till the bacteria are completely dissolved. This is shown by the appearance of translucency. Add several drops of an alcoholic solution of phenolphthalein. Then add a normal hydrochloric acid volumetric solution till the color is just discharged. To this neutralized solution, add several volumes of 95 per cent. alcohol. A copious precipitate which increases on standing, should result. The precipitate is collected by centrifuging and decanting the supernatant fluid. Add normal saline solution to the sediment to give approximately a 1:20 solution by volume and extract at the temperature of boiling water or boil over the free flame for from three to five minutes. Then centrifuge to clear the solution of the insoluble débris. The supernatant fluid is the finished antigen. It can be prepared in a half hour or less if necessary. This antigen can be reheated for sterilization at 100 C. apparently indefinitely.

45. **Von Dungern's Indigo Test for Syphilis.**—Fujimoto claims that von Dungern's indigo test for syphilis is practically unavailable for the serum diagnosis of syphilis, because there is no difference as to this test between syphilitic and nonsyphilitic serums. Among the substances that the reagent contains, neither indigo nor salts play any part in the inhibition of the coagulation, as von Dungern formerly thought. The coagulation of serums in this reaction is prevented only by the alkali, as Flood proved. The degree of alkalinity that can prevent the coagulation of serum, varies according to the individual, not according to the presence or absence of syphilis. On the other hand, the alkalinity that prevents the coagulation of serums varies according to the concentration of the serums; that is, the more diluted the serum, the more easily may its heat coagulation be prevented by alkali.

46. **Antibodies Obtained from Precipitates of Typhoid Antityphoid Serum.**—An extract of typhoid bacilli, formed by digesting the bacteria in 2.5 per cent. antiformin and neutralizing the solution with normal hydrochloric acid, produces a voluminous precipitate when mixed with antityphoid serum. An equal amount of such an antigen solution and serum produces the maximum precipitate. Weinstein says that such precipitates contain not only precipitins, but also agglutinins, complement fixing, bactericidal and protective bodies. By passing stock cultures of typhoid bacilli through guinea-pigs, whose resistance is lowered by the simultaneous injection of streptococcus vaccine, it is possible so to increase the virulence of the culture that small doses will kill mice and guinea-pigs in a short time. One c.c. of extract will protect guinea-pigs against 2 c.c. of typhoid bouillon culture, a fatal dose; 0.2 c.c. of extract will protect mice against 0.2 c.c. of culture, which is likewise a fatal dose.

47. **Specificity of Intracutaneous Absorption.**—In the present work guinea-pigs immunized to one antigen were tested by the intracutaneous injection of the specific and also of a heterologous antigen to demonstrate to what extent absorption depends on a specific factor. It is evident from the data given that precipitin and agglutination tests are satisfactory means for measuring the transference of antigen. The agglutination titrations run parallel with the precipitin tests. The process of immunization develops a mechanism whereby the specific antigen is removed from the cutaneous tissues to reappear in the serum at a rate far in excess of that occurring in normal animals. The conclusion drawn by Smith and Cook from this work is that the immune state so alters the process of antigen absorption from the skin that the specific antigen is removed more readily than in the normal state. Moreover, it is of especial interest that in an immunized

animal the nonspecific antigen is not eliminated as rapidly as is the same antigen from normal tissues, for in the animals immunized to horse serum the rate of disappearance of goat serum was delayed over that found in normal pigs. It would seem, therefore, that in immunized animals, a specific mechanism has been developed at the expense, in some measure, of the normal process.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

January, 1918, **10**, No. 7

49 *Quantitative Study of Effect of Digitalis on Heart of Cat. G. C. Robinson and F. N. Wilson, St. Louis.—p. 491.
50 *Absorption of Drugs and Poisons Through Vagina. D. I. Macht, Baltimore.—p. 509.
51 *Local Hemostatic Properties of Cotarnin and Some other Agents. P. J. Hanzlik, Cleveland.—p. 523.

49. **Effect of Digitalis on Heart.**—The experiments made by Robinson and Wilson indicate that the action which digitalis exerts on the cat's heart is altered when the vagi are cut. The inversion of the T wave occurs practically with the same dosage and to the same extent as it does when the vagi are intact, but the auriculoventricular conduction and the heart rate are almost unaffected by digitalis intravenously injected to the lethal dose after the vagi have been cut. These findings indicate that the drug exerts its action on the heart of the cat both directly and through its effects on the vagus center. The direct action on the heart as shown by the change in the T wave of the electrocardiogram is the first definite effect to appear when a constant percentage of the lethal dose of the drug is injected at intervals intravenously. The moderate slowing of the heart rate which followed the injection of digitalis in vagotomized cats may be an indication of the stimulation of the peripheral end of the vagi.

50. **Absorption of Drugs Through Vagina.**—Macht shows that a large number of drugs and poisons—alkaloids, inorganic salts, esters and antiseptics—can be and are easily absorbed through the vaginal wall, and that poisoning through the vagina, of a grave character, is not very rare. These experiments indicate, on the one hand, the possibility of administering drugs therapeutically for their constitutional effects through the vaginal route; and on the other hand emphasize the great danger of the indiscriminate employment of various poisonous substances in the form of douches, tampons, "uterine wafers," etc.

51. **Local Hemostatic Properties of Cotarnin.**—Hanzlik states that as compared with epinephrin, the salts of cotarnin (styptol and stypticin) and sodium phthalate are certainly inferior hemostatics, and probably entirely inactive in this respect.

Kansas Medical Society Journal, Topeka

February, 1918, **18**, No. 2

52 Freudian Psychology. M. S. Deland, Topeka.—p. 29.
53 Relationship of Gastric Ulcer to Malignancy. A. Smith, Parsons.—p. 36.

Medical Record, New York

Feb. 16, 1918, 93, No. 7

54 Wounds of Thorax in War. J. R. Eastman, Indianapolis.—p. 265.
55 *Report on Ten Thousand Cases from Clearing House for Mental Defectives. M. G. Schlapp and A. E. Paulsen, New York.—p. 269.
56 Flatfeet and Two Opinions. D. H. Stewart, New York.—p. 275.
57 Symptomatic Atelectasis. A. Abrams, San Francisco.—p. 276.
58 Uterine Fibroid Tumors. F. D. Reese, Cortland.—p. 278.
59 Accidents and Complications of Fistula Operations. C. J. Drueck, Chicago.—p. 280.
60 Some Costly Illusions in Management of Tuberculosis Patients. H. Crutcher, Tularosa, N. M.—p. 282.
61 Radium Emanation in Hay-Fever. F. E. Park, Stoneham, Mass.—p. 284.

55. **Clearing House for Mental Defectives.**—The Clearing House for Mental Defectives was established by Dr. Schlapp in 1911, at the Post-Graduate Hospital in New York City. The institution formulated as its aim the detention, scientific diagnosis, registration and research into mental deficiency, and recommended that all persons found to be socially unfit, actually or potentially, possibly as a result of mental defect, should be referred to the Clearing House by the agent of the department or society which discovers them, and that at the Clearing House they should be subject to the following procedure: (1) complete registration and identification of the person by means of photographs and by mental and physical measurements, combined with a complete history of the case and all relative facts obtainable; (2) diagnosis; (3) recommendations for care, treatment and training proper to each case; (4) follow-up work. In the beginning the Clearing House received its patients from chance applicants at the hospital and from miscellaneous social workers who know of its existence. In 1913, Commissioner Drummond of the Department of Public Charities recognized the Clearing House as the official examining place for admission to Randall's Island. Since the summer of 1915 the official relationship between the Department of Public Charities and the Clearing House has been severed. In 1913, the state legislature passed a bill providing for proper examination of children passing through the courts, and in January, 1917, the courts, basing their authority on this law, established a separate clinic for their own cases. The original Clearing House, however, continues its work just as it always did receiving patients from any agency which may find occasion to use it. On the average, about 1,500 new cases are seen every year. The Clearing House has now examined over 10,000 cases. An analysis of these cases is given.

Mental Hygiene, New York

January, 1918, **2**, No. 1

62 Management of War Neuroses and Allied Disorders in Army. J. Collie.—p. 1.
63 Mental Health for Normal Children. W. H. Burnham.—p. 19.
64 Consideration of Conduct Disorders in Feebleminded. L. P. Clark, New York.—p. 23.
65 Feeblemindedness and Industrial Relations. C. S. Rossy, Ossining.—p. 34.
66 Practical Function of Psychiatric Clinic. J. T. MacCurdy, New York.—p. 53.
67 Family of Neurosyphilitic. H. C. Solomon and M. H. Solomon, Boston.—p. 71.
68 Better Statistics of Mental Diseases. H. M. Pollock, New York.—p. 81.
69 Study of Six Hundred and Eight Admissions to Sing Sing Prison. B. Glueck, New York.—p. 85.

Military Surgeon, Washington, D. C.

February, 1918, **42**, No. 2

70 *Epidemic of Measles and Pneumonia in 31st Division, Camp Wheeler, Ga. L. C. Duncan.—p. 123.
71 Treatment of Pneumonia in Base Hospital. Camp Wheeler, Ga. J. Sailer.—p 133.
72 *Disposition of Patients and Candidates for Enlistment who Present Symptoms and Signs of Heart Disease. J. M. Swan.—p. 139.
73 Effects of High Altitudes on Efficiency of Aviators. E. G. Seibert.—p. 145.
74 *Study of Aerobic Bacteria Found in Wounds Received on Battlefield of Somme. J. S. Lawrence.—p. 149.
75 Medicomilitary Notes. R. W. Hinds.—p. 169.
76 Laboratory of Experimental Sanitation at Medical Officers' Training Camp, Fort Riley, Kan. D. M. Shewbrooks.—p. 179.

70. **Measles and Pneumonia at Camp Wheeler.**—The following measures were adopted at Camp Wheeler to combat the measles and pneumonia epidemic: A sufficient amount of woolen clothes, including overcoats and blankets, was secured. Through the effective action of the Surgeon-General sufficient tents were secured to place but five men in a tent, allowing 50 square feet of floor space per man. Greater efforts were made to secure systematic furling of tents, and the keeping open of tent hoods and doors at night. A sentry was placed in each company street to enforce this order. Tent floors were required to be mopped out daily with a 2 per cent. creolin solution. Spit boxes, filled with sand wet with creolin solution and emptied daily, were required in each tent. Mess kits were required to be boiled and the use of dish rags was not allowed. Careful supervision of dental work was required, with sterilization of instruments by boiling. Sterilizing rooms were constructed at the base hospitals and in all infirmaries, for sterilization of effects of pneumonia patients. Formaldehyd solution and phenol were used in these. Pneumonia convalescents were segregated and not returned to regiments, but later sent to Fort McPherson hos-

pital. The spraying of throats of convalescents with dichloramin-T was required. Measles patients were separated by screens in the hospital, and retained for a much longer time than previously. From an early date, pneumonia patients were segregated in the base hospital and the types, so far as possible, separated, measles pneumonia being isolated from independent pneumonia. Sprinklers were secured and a general system of road sprinkling was instituted, though at rather a late date. The stopping of all gatherings was considered long and carefully, but never adopted. Prophylactic vaccination was advised by Duncan as an experiment, but has not yet been tried.

72. **Disposition of Recruits with Heart Disease.**—The following data are presented by Swan for the guidance of recruiting officers and ward surgeons: 1. A candidate for enlistment who presents definite evidence of mitral stenosis, aortic regurgitation, aneurysm or hypertrophy of the heart should be rejected. 2. A candidate who presents an apex systolic murmur, transmitted into the axilla and heard at the angle of the scapula, accompanied by definite evidence of cardiac hypertrophy and subjective symptoms, should be rejected. 3. A candidate who presents an apex or a basal systolic murmur of irregular transmission, not accompanied with cardiac hypertrophy, and unattended, except occasionally, with subjective symptoms, should be accepted. It is altogether likely that such a candidate, under regular outdoor life with systematic muscular exercise, would prove satisfactory material for the development of a good soldier. 4. A candidate who presents an extrasystolic arrhythmia or a respiratory arrhythmia should be accepted, provided there is no evidence of organic heart disease. 5. A candidate who presents a pulsus irregularis perpetuus (auricular fibrillation) should be rejected. 6. Cases of functional cardiac disease which have, in the past, been termed irritable heart of soldiers, etc., should not be treated as cardiac cases. They should not receive digitalis. They should not be kept in bed. They should be employed at tasks which require a gradually increasing expenditure of muscular effort. Calisthenics should form a part of their treatment. 7. Candidates for enlistment who give a history of syphilis and of recurring attacks of rheumatic fever should be rejected.

74. **Study of Aerobic Bacteria Found in Wounds on Battlefield.**—The purpose of this paper is to give the American surgeon and bacteriologist an idea of the types of organisms that contaminate gunshot wounds made on the western front, their relative frequency and importance and simple methods for their identification. The material was collected in the summer of 1916 from wounds inflicted on all parts of the body and received about Peronne at the time of the English and French drive. About 1,500 wounds were studied culturally, and more than 5,000 stained preparations were examined from July until November. Lawrence says that every wound will be contaminated sooner or later, while the vast majority are infected at the time of making. Another source of infection may be the dressing. The microscopic findings were often hastily reported as streptococci, staphylococci or gram-negative or gram-positive bacilli. The great mass of organisms were micrococci, both gram-negative and gram-positive, and gram-negative bacilli of the colon proteus group. In more than 80 per cent. of the wounds studied culturally, streptococci (cocci appearing in chains of four or more units) were found. In the deep or pocketed wounds the streptococci flourished, but in the shallow wounds, or when the deep pockets were opened wide, they were replaced by staphylococci in the course of healing. Gram-negative and gram-positive varieties of both streptococci and staphylococci were observed. Varying degrees of anaerobiasis were manifested in the deep cultures examined after twenty-four hours' growth. The pneumococcus, *M. catarrhalis, M. tetragenus* and *enterococcus,* in addition to *M. aureus* and *M. albus,* were recognized.

Gram-negative bacilli, usually of the typhoid colon size but occasionally some that were larger, were present in 95 per cent. of the wounds. The following organisms were isolated in pure culture with the frequency indicated. *B. coli* was found in more than 50 per cent. of the wounds. *B. vulgaris* was found in about 40 per cent. of the wounds, *B. aerogenes* and *B. pseudodysentericus* (Müller, 1902) were isolated from about 25 per cent. of the wounds. *B. cloacae, B. rhinoscleroma* and *B. alcaligenes* were each isolated from 10 to 20 per cent. of the wounds. *B. pyocyaneus* was isolated from only about 10 per cent. of the wounds while they were still fresh, but as the wounds grew older it was found more frequently. Larger bacilli, both gram-negative and gram-positive, were observed in about 20 per cent. of the wounds and, when cultured, proved frequently to be aerobic spore-bearing organisms. Of these the following varieties were isolated. Arranged in the order of their frequency, they are: *B. cereus, B. mesentericus, B. vulgatus, B. subtilis, B. fusiformis, B. albolactus, B. aterrimus, B. megaterium, B. brevis, B. terminalis* and *B. circulans.* These organisms usually disappeared very promptly from wounds under treatment. Other gram-positive bacilli, but nonspore-bearing, were very like *B. diphtheriae* in morphology. These organisms were more prevalent in the winter than in the summer. These observations indicate that: (*a*) The type of contamination may vary with the location of the battlefield, with the time of the year, with the age of the wound and with the care exercised in making the dressings. (*b*) The contaminating organisms are saprophytes or parasites from the air or intestinal tract. (*c*) They are mostly nonpathogenic, but, when exceptionally situated, may produce toxic conditions.

Minnesota Medicine, St. Paul

February, 1918, **1,** No. 2

77 Colles' Fracture. O. W. Parker, Ely.—p. 53.
78 Military Surgeon in Service. H. Greenleaf, Fort Snelling.—p. 62.
79 Medical Advisory Boards. W. J. Mayo, Rochester.—p. 66.

New Jersey Medical Society Journal, Orange

February, 1918, **15,** No. 2

80 From Nursery to Dining-Room. W. W. Riha, Bayonne.—p. 37.
81 Malingering. W. J. Chandler, South Orange.—p. 41.
82 Loose Kidneys. F. M. Donohue, New Brunswick.—p. 46.
83 Inversion of Uterus with Spontaneous Replacement. J. A. Maclay, Paterson.—p. 48.

New York Medical Journal

Feb. 16, 1918, **107,** No. 7

84 Relation of War to Nourishment of Children. S. J. Baker, New York.—p. 289.
85 Cure of Heart Disease in America as Replacing Heart Cures of Europe. L. F. Bishop, New York.—p. 293.
86 Tuberculosis and Roentgenograms. M. E. Lapham, Highlands, N. C.—p. 294.
87 Epilepsy. F. R. Starkey, Detroit.—p. 298.
88 Control of Communicable Diseases in City of New York.—S. I. Hubbard, New York.—p. 303.
89 Practical Points Concerning Diphtheria. D. M. Lewis, New Haven, Conn.—p. 306.
90 Exanthematous and Other Forms of Influenza. B. Frankel, New York.—p. 308.

Southern Medical Journal, Birmingham, Ala.

February, 1918, **11,** No. 2

91 Present Outlook on Tuberculin Therapy. P. H. Ringer, Asheville, N. C.—p. 83.
92 *Fundamentals of Vaccine Therapy. E. D. Holland, Hot Springs, Ark.—p. 87.
93 *Value of Triple Typhoid Vaccine in Civil as Well as Military Life. R. Lyons, New Orleans.—p. 89.
94 Natural Starting Point of All Rational Medical Thought. J. C. Johnson, Atlanta, Ga.—p. 94.
95 Some Manifestations of Malaria Relative to Digestive Disturbance. J. E. Knighton, Shreveport, La.—p. 98.
96 *Relative Value of Public Health Nurse in Solution of Tuberculosis Problem. W. L. Heizer, Frankfort, Ky.—p. 103.
97 Medical Inspection of Schools in North Carolina. G. M. Cooper, Raleigh, N. C.—p. 112.
98 Medical Supervision of Employees in Large Industries. J. A. Gentry, Atlanta, Ga.—p. 115.
99 Recent Progress in Treatment of Cancer of Prostate, Seminal Vesicles and Bladder. H. H. Young, Baltimore.—p. 120.
100 *Tumors of Urinary Bladder. E. S. Judd and S. W. Harrington, Rochester, Minn.—p. 129.
101 Interpretation of Lumbosacral Backache in Women. E. H. Richardson, Baltimore.—p. 139.
102 Blood Transfusion in Emergency Surgery—Sodium Citrate—Indirect Method. E. T. Newell, Chattanooga, Tenn.—p. 145.
103 Late Infection After Elliott Operation Not Always Fatal. M. Feingold, New Orleans.—p. 150.
104 Tests by Bárány Method. J. J. Shea, Memphis, Tenn.—p. 152.

92. **Fundamentals of Vaccine Therapy.**—Holland has had some good results in injecting the sciatic nerve with vaccines in sciatica. This she does not consider due to an immunizing effect of the vaccine, but to the consequent trauma of the vaccine reaction in and around the nerve. She finds that the safest, surest and easiest way to space the doses is to watch the local reaction at the point of infection and give the next dose at the time that this local reaction disappears, which is usually three days, although she has had them take eight days.

93. **Value of Triple Typhoid Vaccine.**—In his experience with the triple vaccine Lyons has found it advisable to begin with 0.25 c.c. for the first dose, advancing the dosage to 0.5 c.c. for the second and 1 c.c. for the third dose. In civil work this is a good plan, as many individuals are discouraged from taking their second and third doses if they happen to have some reaction with the first dose. During the past six years Lyons has inoculated over 150 persons with a mixed vaccine. Of these he has been able to follow fifty from periods of one to six years. None have developed any infections of enteric type. His own blood was examined a few weeks ago. It still agglutinated *B. typhosus* up to 1:100 dilution in forty-five minutes, but no longer agglutinated paratyphoid "A" and "B." This is quite an unusual reaction after a lapse of over six years, and possibly depends on the fact that the last dose was a large one containing 1,000 million of each organism. This brings out an interesting point that while the dosage of each organism was the same the highest agglutination titer was always against *B. typhosus*.

Lyons is of the opinion that if such a vaccine were generally employed in civil life the morbidity from fevers of unknown origin and many so-called typhoids with negative bloods would be greatly lessened.

96. Abstract in The Journal, Dec. 22, 1917, p. 2143.

100. Abstract in The Journal, Dec. 15, 1917, p. 2066.

Tennessee State Medical Association Journal, Nashville

February, 1918, **10**, No. 10

105 *Fractures of Neck of Femur. W. C. Campbell, Memphis.—p. 385.
106 Breast Tumors. E. H. Adkins, Chattanooga.—p. 389.
107 Herniotomy. W. A. Bryan, Nashville.—p. 391.
108 Blood Vessel Anastomoses. E. T. Newell, Chattanooga.—p. 395.
109 What Is the War About? B. Moynihan, Leeds, England.—p. 401.

105. Abstract in The Journal, April 28, 1917, p. 1287.

Vermont Medicine, Rutland

January, 1918, **3**, No. 1

110 Reconstructive Surgery in War. A. M. Forbes, Montreal, Canada.—p. 1.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

January, 1918, **22**, No. 8

1 Two Cases of Rare Deformity of Feet and Hands. C. T. Holland.—p. 234.
2 Study of Interrelation between Radiography and Surgery of Gunshot Wounds of Head. H. E. Gamlen and S. Smith.—p. 240. To be continued.

British Medical Journal, London

Jan. 26, 1918, **1**, No. 2978

3 *War Surgery of Chest. A. L. Lockwood and J. A. Nixon.—p. 105.
4 *Treatment of Septic Hemothorax and Empyema. J. Campbell.—p. 109.
5 Endotoxin of Meningococcus. M. H. Gordon.—p. 110.
6 Asthma. J. Adam.—p. 113.
7 Survey of One Thousand and Sixty-Four Operations for Complete Removal of Tonsils and Adenoids. E. D. D. Davis.—p. 114.
8 *Treatment of Amebic Dysentery with Emetin and Bismuth Iodid. A. C. Lambert.—p. 116.

3. **War Surgery of Chest.**—While the treatment of wounds involving the chest alone consisted in the early stages in absolute rest and noninterference, and later operations were dictated by infection of the thoracic cavity, nevertheless, injuries extending to the abdomen and involving the diaphragm were recognized by the authors and their associates as demanding immediate operation, and not being necessarily fatal. As early as the middle of July, 1916, it was realized that practically all wounds of the diaphragm left unrepaired proved fatal. From that period all cases diagnosed or suspected of having a diaphragmatic lesion were operated on. Repair of the diaphragm was found to be of greater urgency than the repair of any hollow or solid viscus in the abdomen. But repair of the diaphragm was not always sufficient. In some cases there existed a serious lesion of the thorax or its contents. The stages by which treatment of thoracic and abdominothoracic injuries was gradually evolved were briefly as follows: 1. The parietal wound was excised, the comminuted fragments of rib removed, and the pleura, if possible, closed. No attempt was made to clear out the hemothorax, or to follow the missile into the chest. Repair of the thoracic contents was not attempted. 2. In July, 1916, repair of the diaphragm became a routine procedure by the adbominal route. 3. Extensive injuries to the bony skeleton of the thorax were seen to be almost invariably fatal. The principal cause of death was not sepsis. The patients did not recover from the shock and exhaustion of gross bony lesions until all comminuted bone and sharp spicules were removed. From this time it became an established rule to operate on the parietes on all stove-in chests. 4. An important advance was made when a case was recognized in which the diaphragm was injured by a purely thoracic wound. A successful operation was performed by the thoracic route instead of, as previously, by the abdominal. Thenceforward the practice of dealing with thoracic injuries of the diaphragm through the thoracic wound was adopted. 5. Up to the end of 1916 open (sucking) wounds of the chest—traumatopnea—had shown a mortality of almost 100 per cent. Various methods of plugging the hole in the chest wall were found to postpone, but not to avert, the fatal result. At this time it was realized that it was practicable to excise the parietal wound, clear out completely the hemothorax, and close the opening in the chest wall.

At the advanced dressing station, apart from patients that die before they can be moved, certain patients are received that are not fit to travel until they have rallied to some extent. Into this category come cases of traumatopnea. This type of wound requires to be carefully cleaned without an anesthetic and the skin sutured with silkworm gut through a plug of gauze so that there is no leakage of air. The improvement in the patient's condition is often marvellous within an hour or two of being sutured. The mental distress which accompanies traumatopnea is at once relieved. The lung often expands and the respirations become deeper, easier, and more regular. Patients should travel direct from the advanced dressing station to the surgical unit dealing with chest wounds. Chest cases requiring early operative treatment require it as urgently and as promptly as abdominal cases.

Immediately on admission to the casualty clearing station these patients are dressed in clean pyjamas, laid between warmed blankets in a heater in the position most comfortable to the patient, but, if possible, with the injured side dependent. Continuous rectal administration of sodium bicarbonate and glucose (5 per cent. each in water) is started. Intravenous sodium bicarbonate (2 per cent.) is given if required, and in a large percentage of severe cases immediate blood transfusion (600 to 800 c.c.) is administered with the minimum of disturbance to the patient, preferably by the new "No. 17" or the Kimpton Browne tube. Hot drinks by the mouth, especially cocoa, are given freely, but no stimulants whatever. Sleep is the great restorative, and should be procured by every means and device. Urgent dyspnea from hemothorax or pneumothorax should be relieved before operation by aspirating. If fresh hemorrhage is suspected, the aspiration should be partial and combined with oxygen replacement.

4. **Treatment of Septic Hemothorax.**—Under a general anesthetic the wound is explored, the fractured portions of

rib resected and the wound sewn up if its condition allows. The pleural cavity is then drained in the usual fashion, resecting about 3½ inches of rib, as far forward and as low as possible; that is, usually the eighth rib in the mid or anterior axillary line. Through this opening the cavity is explored, and an easily accessible foreign body and fragments of loose bone lying in the cavity or on the surface of the lung removed. Blood clot and fibrin are swabbed out so far as possible, and any septa forming loculi broken down. The cavity is next washed out with a warm mixture of hydrogen peroxid and eusol, or neutral solution of chlorinated soda. A rubber tube of a quarter of an inch internal diameter, with a large lateral opening a quarter of an inch from one extremity is then inserted, so that this end lies in the most dependent part of the pleural cavity when the patient is lying on the normal side; that is, in the costovertebral recess behind the pericardium. Finally, the wound is loosely sewn up, but no attempt is made to effect an airtight closure round the tube. When the patient has recovered from the operation, the size of the cavity is estimated by filling it carefully (but usually incompletely) with warmed neutral solution of chlorinated soda, and then emptying it. After this the cavity is filled through the tube every four hours to about one-third of its capacity or less with neutral solution of chlorinated soda. At the end of two hours another long tube is attached to the tube in the chest and the fluid siphoned out, the patient meanwhile lying on the sound side with the chest opening uppermost, or as nearly so as possible. The patient is told to pant or cough slightly at frequent intervals as long as the fluid remains in the chest, and by this means splash the fluid about inside the cavity, and so bathe with it the entire infected surface and any recesses that may exist. In this way the pleural cavity contains for two hours a large quantity of sodium hypochlorite solution and is more or less empty for a like time. During the former period the patient lies rigidly on the sound side, without any raising of the shoulders, to prevent escape of the fluid and consequent flooding of the bed; during the latter he is free to lie as he chooses. Thus the patient gets a reasonable amount of rest and comfort and is saved the exhaustion associated with the maintenance of one constant position. In addition, once daily, the tube is removed, sterilized, and replaced, and the cavity washed out as in the usual treatment for empyema. To overcome the disadvantages of injecting cold fluid into the chest, Campbell has found that it is better to make the neutral solution of chlorinated soda of double strength and, prior to filling, to dilute it with an equal quantity of warm sterile water. When treatment is carried out in this way, it is found that pus formation and offensive odor largely disappear at the end of thirty-six hours and are absent at the end of three to four days; the patient's tongue becomes clean and moist almost at once; delirium and emaciation, so frequently seen in these cases, are absent, and the temperature and pulse rates fall much more rapidly than usual; indeed when looking at them, it is hard to distinguish these cases from those that are not infected.

8. **Treatment of Amebic Dysentery.**—Judging by the results obtained by Lambert in a small series of cases, it would seem: 1. That we have in emetin and bismuth iodid a combination of considerable potency in the treatment of amebic dysentery, particularly when the amebae are assuming their resistant stage. When given in pill form in doses not exceeding 2 grains its emetic effects are slight, at all events in Indian cases. Its use in conjunction with hypodermic injections of emetin hydrochlorid in acute amebic dysentery would seem to be beneficial, in that convalescence is established earlier, and patients are less likely to become carriers. It cannot be considered in the light of a substitute for emetin, as attempts to treat acute cases with it alone ended in failure, until emetin was used in addition. 2. In carriers, and in those convalescents who continue to harbor cysts, emetin and bismuth iodid should prove superior to emetin, and it would seem a wise proceeding, from a public health point of view, to subject all cases of amebic dysentery to a course of emetin and bismuth iodid during convalescence.

Glasgow Medical Journal

January, 1918, **89**, No. 1

9 Explanation of Color and Color Vision. C. R. Gibson.—p. 1.
10 *Most Unusual Case of Pathologic Fracture Myeloid Sarcoma and Cystic Disease of Bone. A. G. Faulds and J. H. Teacher. —p. 17.
11 Obstructive Alimentary Toxemia. A. Jones.—p. 22.

10. **Myeloid Sarcoma and Cystic Disease of Bone.**—A woman, aged 30 years, was suffering from an ununited fracture. While going downstairs three months previously her leg gave way. She was unable to rise. At the hospital a splint was applied, and she remained there for nearly three months. It was found, however, on attempting to get up, that her leg had not recovered. The roentgen rays showed a fracture somewhat comminuted about the junction of the upper and middle thirds. It was evident that disease had been the cause of the fracture. The usual operation of amputation of a thigh through the upper third was entered on, but when the surgeon reached the bone, he found the whole shaft from the seat of fracture to beyond the trochanters was diseased in so far that it was extremely fragile, had the appearance of being eaten away, and the color of rotting oak. On putting his knife against the bone, he found that he could easily pierce the outer shell, and testing it in this way up to the trochanters he found the same condition pervading the whole upper part of the shaft. The bone was then dissected up to the acetabulum, when, on manipulating the limb, the head broke off at the anatomic neck like a rotten piece of wood, and remained in the acetabulum. After opening the capsular ligament, the head of the femur was removed and the limb disarticulated.

The patient on admission was of an unhealthy appearance, being sallow, and a low cachectic complexion. She looked like a patient suffering from pernicious anemia or from some form of toxemia. The Wassermann reaction was negative. After the operation the patient steadily improved and was dismissed very much better, and with the stump healed, complaining, however, of the same kind of pain in her remaining thigh which she had suffered from before the fracture. On examination cysts were found in various parts of the bones removed. The cystic condition was very advanced in the whole of the upper part of the femur, and there were two or three small areas of it below the fracture; it was present at the soft spots in the tibia. There was nothing but atrophy in the bones of the foot. Only one small brown nodule projecting into a cyst showed the structure of myeloid sarcoma, but traces of this tissue, apparently undergoing fibrosis, were seen at one or two other points. One small brown mass which was picked out of the side of a small cyst was myeloid sarcoma.

Lancet, London

Feb. 2, 1918, **1**, No. 4927

12 War Psychoneurosis. F. W. Mott.—p. 169.
13 Repression of War Experience. W. H. R. Rivers.—p. 173.
14 *Predisposing Factors of War Psychoneuroses. J. M. Wolfsohn. —p. 177.
15 *Prognosis with Special Reference to Condition Described as Irritable Heart of Soldiers. T. Lewis.—p. 181.

14. **Predisposing Factors of War Psychoneuroses.**—Wolfsohn made a study of 100 cases of war psychoneuroses and 100 cases of somatic injuries produced in the firing line. He says that cases of war neurosis are very rarely associated with external or somatic wounds. The vast majority of the psychoneurotic cases studied were among soldiers who had a neuropathic or psychopathic soil. In 74 per cent. of these cases a family history of neurotic or psychotic stigmata, including insanity, epilepsy, alcoholism, and nervousness, was obtained, while a previous neuropathic constitution in the patient himself was present in 72 per cent. A gradual psychic shock from long continued fear, together with the sudden change from quiet peaceful environment to the extraordinary stress and strain of trench fighting, is the chief predisposing cause of war psychoneurosis in soldiers with neuropathic predisposition. In fact, these factors may be the cause of the neurosis per se. The history of the patient previous to enlistment has an influence on the character and gravity of the symptoms of the neurosis. Acquired neuroses

with their less severe symptoms appeared only after excessive fatigue, with the concussion from the high explosive detonation acting as the exciting factor. On the other hand, in the same abnormal environment, and with the same powerful factors obtaining, wounded soldiers do not suffer from war neuroses except in rare instances. In the wounded soldiers studied no neuropathic or psychopathic stigmata occurred in the family history. Previous neuropathic tendencies were found in 10 per cent. of these patients (controls), all of which number presented mild neurasthenic symptoms. Hysteric manifestations, such as monoplegia in a wounded limb are occasionally encountered in injured soldiers.

15. **Prognosis of Irritable Heart of Soldiers.**—The plea which is urged by Lewis is a plea for a wider consideration and trial of exercise tests as a chief means of grading soldiers generally, but of grading invalid soldiers in particular, to various categories of duty. Lewis strongly advocated that every general military hospital should have at its disposal a training ground on which its patients may be submitted to physical exercises under the supervision of the medical officers who treat them and sort them. No patient in regard to whose physical capacity there is a doubt should be discharged from the hospital (as fit or unfit) until his tolerance or intolerance of physical strain has been established. The author outlines the actual results of the method employed in sorting those soldiers for duty who are admitted to the hospital for cardiac disabilities. All soldiers admitted to the Military Heart Hospital are submitted to a full physical examination, and within the first few days of their stay all patients presenting unequivocal signs of mitral stenosis, aortic disease, aneurysm, or material cardiac enlargement are recommended for discharge as permanently unfit. At this examination also are eliminated patients who suffer from manifest diseases of other systems, such as pulmonary tuberculosis, exophthalmic goiter, epilepsy. All are eliminated in whom a positive decision can be reached, none are eliminated in regard to whom a divergence of opinion may exist. Approximately, 3,000 patients have passed through Lewis' hands, the average stay of the patients in the hospital being between two and two and a half months. Of 558 men, examined during six months, 286, or approximately 50 per cent., were judged to be unfit for any category of duty. The remaining 272 men were recommended for one of the several duty categories. Of the whole group, only 38 have been discharged as permanently unfit from the army since they left the hospital, 5 additional men are unfit in lesser degree and are under treatment; 16 men are on sedentary duty at home.

Practitioner, London

February, 1918, **100**, No. 2

16 Value and Limitations of Sanatorium Treatment for Tuberculosis. S. Thomson.—p. 101.
17 Enuresis and Other Common Disorders of Conduct in Childhood. H. C. Cameron.—p. 112.
18 Recent Advances in Dermatology in Connection with War. J. M. H. Macleod.—p. 124.
19 Importance of Diastolic Readings in Differentiation and Treatment of High Blood Pressure Cases. O. K. Williamson.—p. 134.
20 Case of Persistent Tachycardia; Its Cause and Its Cure. C. E. Lea.—p. 141.
21 Germicidal and Therapeutic Action of Garlic. W. C. Minchin. —p. 145.
22 Reflex Phenomena Produced by Commencing Abdominal Hernia. W. B. Cosens.—p. 155.
23 Neurasthenia Pura—Its Etiology, Symptomatology and Pathogeneses, with Special Reference to Prodromal Period of Disease. S. H. Bennett.—p. 157.

Sei-I-Kwai Medical Journal, Tokyo

January, 1918, **37**, No. 1

24 Experimental Study on Influence of Excision of Liver on Constituent of Blood. H. Saito.—p. 1.
25 Distribution of Iodid Compounds in the Animal Body. K. Fujisawa.—p. 2.

Archives des Maladies de l'Appareil Digestif, Paris

December, 1917, **9**, No. 7

26 *Palpation with Cancer of the Rectum. Desmarest.—p. 361.
27 *Glycosuria in Diabetes during Intercurrent Disease. E. Cottin and C. Saloz (Geneva).—p. 371.
28 *Colon Hemorrhage. R. Goiffon and J. Nordmann.—p. 384.
29 *Recent Works on Dysentery. Savignac.—p. 391.

26. **Cancer of the Rectum.**—Desmarest has encountered fifty cases of rectal cancer in his surgical service in the last three years. The large proportion that were inoperable impels him to preach the necessity for earlier diagnosis, and for this, he declares, there is only one means, namely, *le toucher rectal*, exploration of the rectum with the fingers. This is within the reach of every one and he declares that every patient complaining of intestinal trouble and passing any blood by the anus should be examined in this way. Interrogating his cancer patients disclosed that very few had been examined in this way. The physician is too apt to assume merely enteritis or mucomembranous colitis, and put the patient on a special diet, when all the while the unsuspected cancer is progressing; or he ascribes the blood merely to hemorrhoids. Desmarest reiterates that the diagnosis of even hemorrhoids should never be made without rectal exploration. The rectum should be explored as systematically as is the vagina; it is fully as important in disease of the intestines as examination of the vagina with uterine mischief. When the cancer is in the lower half of the ampulla or below, rectal exploration alone is sufficient, but if located above this, rectoscopy is indispensable. With periprostatitis and perimetritis the rectal wall may be swollen and feel abnormal and it may be secreting abnormally. But these findings do not resemble those with malignant disease.

Cancer of the rectum is rarely located on the front wall of the rectum alone; the ulceration usually spreads on the front and side walls. It generally forms a raised patch. The finger bumps against the lower edge and the induration of the base produces a very characteristic sensation. The finger can feel whether the patch is irregular and more or less friable and whether there is a crater-like depression. Almost always the slightest touch is extremely painful and exaggerates the tenesmus. The finger is covered with purulent matter and some blood when it is drawn out if the cancer is ulcerating. A short finger may not reach a cancer high up, but by pulling down the anus, pushing in the suprapubic region if the patient is thin, the lower limit of the cancer may be reached, the finger hits against something. In dubious cases the rectoscope will solve the problem, but even this does not always inform as to the upward extent of the neoplasm, the depth, etc., and an exploratory laparotomy is indispensable.

27. **Diabetic Glycosuria During Intercurrent Diseases.**—Cottin and Saloz describe four cases of diabetes in men of 33 to 50 in which the sugar disappeared from the urine during a febrile intercurrent infectious disease. They describe the few similar experiences recorded in the literature, and theorize to explain this disappearance of the glycosuria. The most reasonable hypothesis, they think, is the assumption that the infectious agents consume the sugar by the fermentations which they induce in the tissues. If this assumption is tenable, it sustains the theory that diabetes is due to a lack of sugar-destroying ferments in the tissues. The fact that during infectious fevers the sugar disappears from the urine and reappears in convalescence testifies to a glycolytic action on the part of the microbes. Only diabetes which is the result of lack of glycolytic ferments would be modified in this way by a febrile infection, and this might serve as a touchstone for differentiation of different forms of diabetes.

28. **Colon Hemorrhage.**—Goiffon and Nordmann report five cases of the passage of red blood by the anus, either acute and profuse or chronically repeated in which the source proved to be in the colon although there were no symptoms to call attention to this part of the bowel at the time of the hemorrhage. With dysentery, tuberculosis, cancer and other lesions, there is generally pus with the blood. They found hot enemas useful, with calcium chlorid, ergot and other measures to check the hemorrhage; in the chronic cases, emetin and kosam. The treatment of the colitis is a difficult matter; they were unable to cure their patients completely in this respect.

29. **Dysentery.**—Savignac analyzes the various publications on dysentery during the last two years as the war has made this one of the questions of the day. The old dysenteric is

the source of danger. The adult ameba is fragile, but the man sowing ameba cysts here and there is the danger. Lebœuf found the ameba in 28 of 436 dysentery cases, and 20 of the 28 men had never been outside of France. Fiessinger's report shows that all the regiments taking over trenches that had been occupied by colonials, were touched with dysentery, and amebic dysentery was found in 5 of 27; 10 of 64, and 19 of 57 cases of diarrhea in different ten day periods. Lesieur found 20 cases in 1,230 of acute diarrhea. All the writers comment on the insidious nature of the first attacks. There may be nothing to suggest dysentery, or only one blood-streaked stool. In other cases the clinical picture simulated typhoid, or peritonitis. In some the amebic dysentery ran a fulminating course; in two, three or six weeks the entire colon was found ulcerated, the liver honeycombed with abscesses. Mattei noted a phase resembling cholera in 6 of 260 cases of amebiasis; there were always signs of renal incompetency and treatment of the uremia was imperative. The kidneys in these cases, as in Lesieur's "uremigenous gastro-enteritis," were already damaged.

There may be suppuration in the liver with the mildest form of amebiasis; in one case a man who had never had diarrhea and never been outside of France, died the tenth day after being taken sick, and necropsy showed amebic abscesses in the liver and suppuration in the colon. Job warns to suspect amebiasis whenever the liver is a bit enlarged. There should be no hesitation as to exploratory puncture; polynucleosis replacing eosinophilia points to abscess production. The diagnosis is especially important now that emetin promises a cure for an abscess with or without the aid of a simple puncture. The effect of the emetin should be evident in forty-eight hours; if not, surgical measures should be no longer delayed. Successive courses of emetin are advocated by most writers. Hurst advises during an epidemic a daily preventive ⅙ grain tablet of emetin by the mouth. All agree that other treatment must be applied for the encysted forms of the ameba, but progress seems to have been realized here also.

Archives de Médecine des Enfants, Paris

October, 1917, **20**, No. 10

30 Congenital Stridor from Muscular Anomaly. G. Variot.—p. 530.
31 Frequency of Adenoids with Phimosis. M. Lassalle.—p. 535.
32 Mongolian Spot in Children in Brazil. C. Ferreira.—p. 537.
33 Acute Peritonitis in Children. J. Comby.—p. 538.

November, 1917, **20**, No. 11

34 Lichenoid Eruption Around Intradermal Test Injection of Tuberculin. L. Brocq.—p. 590.
35 *Bacteriology of Whooping Cough. J. Comby.—p. 593.

December, 1917, **20**, No. 12

36 *Mongolian Idiocy. J. Comby.—p. 617. Commenced in No. 10, p. 505.
37 *Epidemic Meningitis of Different Origins. P. Bézy.—p. 639.
38 Progressive Lipodystrophy. J. Comby.—p. 647.

35. **Bacteriology of Whooping Cough.**—Comby cites a recent publication to the effect that the sputum from 156 Copenhagen children with whooping cough showed the presence of the Bordet-Gengou bacillus in all who had been coughing for two weeks; in two-thirds of those who had had the paroxysmal cough for two weeks; in one third after three weeks, and only in three out of thirty-six in the fourth week, and only once later than this. In the incipient, catarrhal stage, it is difficult to obtain sputum. A Petri dish was held at a distance of 10 cm. from the child's mouth and he was made to cough by holding down the tongue with a spoon. All but seven plates thus inoculated by the droplets from the thirty-nine children examined gave positive cultures of the bacterium. This droplet method gives positive results even before the symptoms warn of the disease. The findings confirm the old assumption that whooping cough is not contagious after the fifth week. Children can thus be sent back to school after four weeks of the paroxysmal cough, even although it still keeps up. Agglutination was found positive in twenty-two of the twenty-three cases tested, while it was constantly negative in 102 healthy controls. It usually appeared at the third week and was constant by the fifth week up to several months. Comby's own experience confirms that whooping cough is contagious only in the first two or three weeks, and he reiterates that there is no use in imposing isolation after the fourth week from the first symptoms. In his service, cases sometimes develop in the general ward but none has ever developed in the ward set apart for the actually whooping children, although children with merely laryngitis, measles, grip and other spasmodic cough have sometimes been admitted by mistake. In measles, scarlet fever and mumps, as well, contagion is to be feared at the beginning, not after the disease is long under way.

36. **Mongolian Idiocy.**—Comby relates that he has encountered sixty-nine cases of mongolian idiocy during the last thirteen years at Paris, showing that it is not so rare in France as hitherto supposed. He cites the literature on the subject, remarking that mongolian idiocy has probably often been confused with myxedema, rachitis and athrepsia. In his series described in detail, there were no consanguineous marriages and no special inherited taints, but the advanced age of the mother and the coincidence of the pregnancy with unusual grief, worry or privations seemed to be a causal factor in a certain proportion of the cases. The prognosis is bad, and these children seem peculiarly susceptible to pneumonia and tuberculosis, so that few live to grow up. The cause of the mongolian idiocy is some old definite lesion before birth, some arrest in development which nothing can remedy. All that can be done is to protect the child against catching cold and isolate him away from tuberculosis. Moderate thyroid treatment might hasten the growth, and medicopedagogic measures might play a useful rôle.

37. **Epidemic Meningitis of Various Origins.**—Bézy has been impressed with the number of cases this last year in which meningeal symptoms formed part of the clinical picture. In 11 cases described there was undoubted tuberculous meningitis, in 10 the meningococcus was found; in 5 no germs could be detected. This series of 26 cases in his service is remarkable; he never had more than 5 a year before. He warns that the meningeal reaction does not constitute the whole disease any more than albuminuria is the whole of nephritis.

Archives de Médecine at de Pharmacie Militaires, Paris

July-August-September, 1917, **68**, No. 1, 2 and 3

39 *The Interallies Surgical Conference.—p. 1.

39. **The Surgical Conference.**—The 510 pages of this number of the *Archives* present the discussions on eighteen different topics determined in advance. The leading surgeons from the allied armies took part and the work thus represents the consensus of opinions last March and last May, when the two sessions were held. The subjects discussed included the organization of the medical department in the armies of the Allies, the general principles for treatment of wounds, traumatic shock, gas gangrene, fractures, amputations, prosthesis, wounds of joints, of vessels, of the chest, the brain, the spine, the nerves, and of the abdomen, and the laboratory technics for keeping the surgeon posted as to the progress of the wound. Among those who shared in the discussions were Moynihan, Almroth Wright, Depage, Castellani, Arbuthnot Lane, Willems, Nigrisoli, Tuffier, Leishman and Sacquépée. The addresses are all given in Franch and there are a few illustrations. This number was received at this office Feb. 6, 1918. Another *Conférence chirurgicale interalliée* is now being organized.

Bulletin de l'Académie de Médecine, Paris

Jan. 8, 1918, **79**, No. 1

40 *Inflammation of the Glands in the Vestibule of the Larynx. A. Robin and J. Renaut.—p. 20.
41 *Record of Urine Findings. P. Hollande and R. Paucot.—p. 33.
42 *Electric Treatment of Bilharziosis. E. Desnos.—p. 37.
43 *Treatment of Keloid with Creosote. Lesieur.—p. 40.

40. **Laryngovestibulitis.**—Robin and Renaut apply this term to a common form of infectious sore throat in which the sputum is difficult to expel and gives the impression of a foreign body impacted in the vestibule of the larynx, at each breath tickling the epiglottis, and inducing a guttural spasmodic cough with violent efforts at expectoration, sometimes concluding with a sneeze which dislodges the sputum. The

glands in the portion of the larynx above the inferior vocal cords are involved in the inflammatory process. They are vascularized like the salivary glands, and their outlets are in an area abounding in intra-epithelial nerve terminals and hence peculiarly liable to start reflexes. They have studied these glands on the dog, and emphasize the intense phagocytic action displayed by the cells in normal conditions. Gargling does not reach the seat of this gland laryngovestibulitis, so they treat it with a spray night and morning and after lunch and dinner. The fluid which meets the various conditions which they describe in detail is a mixture of 25 gm. sodium salicylate; 5 gm. antipyrin; 80 gm. glycerin and 15 gm. each of cherry laurel water and orange flower water, with 1 liter distilled water. This spray applied perseveringly has cured in from three to four weeks even the most inveterate and chronic trouble of the kind.

41. **Record of Urine Findings.**—The findings in question relate to the freezing point of the urine, especially as determined on wounded soldiers with fistulas. By study of the freezing point it is possible to supervise the functioning of the kidneys. A medical cure is as important as the surgical cure, and measures to realize it should not be neglected after the wound and fistula have healed.

42. **High Frequency Electric Current in Treatment of Bilharziosis.**—Only one case is described by Desnos, and the cure took months, but the success was apparently complete. His idea was that the electrocoagulation would destroy the lesions in the bladder and the heat of the diathermy would kill the ova in the tissues.

43. See Paris Letter.

Paris Médical

Dec. 29, 1917, **7**, No. 52

44 Malarial Psychoses. A. Porot and R. A. Gutmann.—p. 518.
45 *Aseptic Resection of Stomach or Intestine. Gudin.—p. 522.
46 Cirrhosis of Pancreas in Hard Drinker. D. Denéchau and R. Picard.—p. 526.
47 Amputation of the Leg. A. Mouchet.—p. 529.

45. **Aseptic Operations on Digestive Tract.**—Gudin's method ensures automatically asepsis and hemostasis; the anastomosis is done as one step, and no sutures are taken in the mucosa. The blades of the clamp must be long enough to take in a 15 cm. stretch. The pressure is applied gently and progressively by turning a thumbscrew. Then two Kocher forceps are placed on the crushed segment, and exclusively on this, and the resection is made between them. Then the edges of the serosa are sutured together back and forth over the forceps; the forceps are withdrawn, and the ends of the suture material are drawn tight and tied. He gives illustrations showing the various applications of this principle. After the forceps are withdrawn, a grooved sound is introduced through the small hole left and the lumen is worked open before the sutures are finally tied.

Presse Médicale, Paris

Jan. 3, 1918, **26**, No. 1

48 *Functional Paralysis and Contracture. H. Claude and J. Lhermitte.—p. 1.
49 *Detection of Tuberculous Soldiers. E. Sergent.—p. 4.
50 *Treatment of Gonorrheal Urethritis. M. Lacombe.—p. 5.

Jan. 7, 1918, **26**, No. 2

51 *Symptoms from Compression of Nerve Trunks. (Névrodocites et funiculites vertébrales.) J. A. Sicard.—p. 9.
52 *Minor Heart Disease. G. Lian.—p. 11.
53 *Repair of the Tendon Synovial Membrane with Graft from Vein. J. Duvergey.—p. 14.

48. **Importance of Early Neurologic Treatment of Contracture and Paralysis After War Wounds.**—From their detailed and extensive study of nervous disturbances in the wounded, Claude and Lhermitte conclude that the motor disturbances are sometimes the result of reflex action from the wound itself. As this heals, the functional derangement properly treated from the first may disappear with it. If not, these functional disturbances may be perpetuated by a psychic mechanism, and their persistence engenders dynamic modifications in the corresponding nerve centers. These modifications become plainly evident in the sensory, motor and reflex phenomena during general anesthesia. The longer the period during which the functional disturbances persist, the deeper the psychic impression, and the harder it becomes to throw it off. There is no fundamental difference, they say, between the hysteria paralysis and contractures known of old and the motor and functional disturbances in the wounded. The peculiar features of the latter are due merely to the long period during which they have been left to themselves or inadequately treated, along with the special mentality induced by the war atmosphere, exaggerating all psychoneuropathic tendencies. Given specialist neurologic treatment early, before they get ingrained, they promptly yield to it, and never reach the stage of "physiopathic disturbance." Physiotherapy alone is not enough; it requires psychotherapy to be effectual.

49. **Tuberculosis in the Soldiers.**—Sergent reported a year ago that 15 per cent. of the soldiers sent to him to confirm the diagnosis of tuberculosis proved to be clinically free from it. This proportion has increased since to 35 per cent. In another large group are men with signs of tuberculosis but no tubercle bacilli to be found in the sputum. He urges that those in this class should be reexamined at intervals. Some throw off all the symptoms but others finally show the bacilli in the sputum.

50. **Treatment of Acute Gonorrhea.**—As the gonococci lurking in the depths of the urethra are liable to escape the action of the usual local measures, Lacombe applies a gas under pressure. This penetrates into the remotest crevices, and the gas he uses, sulphur dioxid (SO_2) has considerable antiseptic effect while it does not impair the vitality of the mucosa. He generates the gas in the urethra by mixing a solution of 6 gm. of picric acid in 1,000 c.c. of water with a 1.7 per cent. solution of anhydrous sodium hyposulphite. The mixture contains 4 c.c. of the picric solution to 1 c.c. of the hyposulphite solution. The chemical reaction between them generates soluble sodium picrate and the gas, sulphur dioxid. He gives three injections a day during the early stage; if the posterior urethra is involved, he injects a little more of the mixture, 4.8 c.c. of the picric solution and 1.2 c.c. of the other. In chronic cases only one injection a day is made. The injections are not painful in the least, and the 130 patients thus treated were promptly cured, with no recurrence to date. No complications of any kind were ever observed. The most striking results were those obtained in cases long rebellious to other measures. Proper internal treatment, a suspensory and repose, are important adjuvants.

51. **Inflammatory Processes in Bony Passages.**—Analogous to the term "radiculitis," Sicard has coined the term "funiculitis" to express inflammation in the lining of the bony passages in the spine through which the nerve roots emerge. The nerve gets squeezed in the resulting proliferation of bone, fibrous tissue or aponeurosis in or close to the passage of the nerve root just after it emerges from the bony passage. The inflammation of the intrameningeal stretch is known as radiculitis; of the extrameningeal stretch, from the dura mater to the plexus, funiculitis. The pathologic condition of the nerves between the dura mater and the plexus causes pains and sensory-motor disturbances, with contracture of the muscles in the vicinity. With the exception of tabes, zona and acute meningitis, the cases of radiculitis on record should have been labeled funiculitis. Sciatica, coccygodynia and brachial and intercostal neuralgia are funiculitis. The vertebral muscles in the vicinity all contract to relieve the pain; another sign is the exacerbation of the pain when the spine is bent. With tabes and zona, true types of radiculitis, the muscles are not contracted and the pain is not increased by bending the spine. Syphilis prefers the root, tuberculosis and cancer the funiculus. Lymphocytosis in the spinal fluid is a sign of radiculitis; with funiculitis the albumin content is increased but not the cell count. This increase in the albumin comes from the impediment to the return of the venous blood offered by the compression from the inflammatory reaction in the bony passage. Radiculitis interrupts the tendon reflexes, while funiculitis may exaggerate them. Treatment of radiculitis should be general medical measures with or without intraspinal injection, or an operation on the

root or the ganglion. With funiculitis, on the other hand, injection of a cocain-salicylate mixture directly into the contracted muscles and epidural injections are called for with or without surgical measures, to restore ample permeability to the passage.

52. **Disordered Action of the Heart.**—Lian found in about 20 per cent. of 350 men with disordered action of the heart that the cause of the slight disturbance was some comparatively insignificant derangement of toxi-infectious origin. He calls them *les petits cardiaques*, and says that after a few days of rest, it is better for the men to return to light duty rather than to have further repose enforced which only makes them exaggerate the importance of their heart trouble. Treatment can be only palliative in the chronic forms. He tests them with the gymnastic marking-time step and balancing a weight. By this means he has been able to sift out a number of these *petits cardiaques* and return them to light duty only.

53. **Repair of Tendon with Saphenous Vein.**—Duvergey remarks that war wounds involving tendons usually heal with a cicatrix binding down the two stumps of the tendon and fusing into one solid mass the skin, the bone and sometimes the adjacent tendons, but there is little if any retraction. It is necessary to loosen up these adhesions, free the adjacent tendons and bridge the gap between the stumps of the severed tendon. The latter he accomplishes by utilizing the cicatricial tissue already in place. He carves it in the shape of the normal tendon, then cuts it across in the center and works over each stump in turn, the ends of a corresponding segment cut from the patient's own internal saphenous vein, below its junction with the femoral vein. The vein is slipped over the upper stump and the whole is worked up on this stump. Then the two stumps are sutured together again and the lower half of the vein is pulled down over the lower stump until it fits smoothly and forms a smooth sheath for the rebuilt tendon. Seven illustrations show the various steps of the procedure.

Correspondenz-Blatt für Schweizer Aerzte, Basel

Dec. 29, 1917, **47**, No. 52

54 *Whole Wheat Flour. E. Feer.—p. 1777.
55 *Harelip. H. Matti.—p. 1785.
56 Rupture of the Biceps. A. Wydler.—p. 1793.

Jan. 5, 1918, **48**, No. 1

57 *Deafmutism in Switzerland. F. Siebenmann.—p. 1.
58 *Differentiation of Smallpox and Chickenpox. Tièche.—p. 14.

54. **Coarse Wheat Flour in Infant Feeding.**—Feer pleads that we should use foods more as Nature provides them, and not denature flour by fine bolting, and vegetables by boiling and throwing away the water in which they were boiled. He has been giving to 100 infants whole wheat flour, up to 87 per cent., and found that those who could bear wheat flour at all thrived on the coarse flour just as well. This was the more surprising as the infants in his service were suffering from various diseases. Only a very few in the series were normal. He is inclined to think that young and old will benefit by the use of the coarser flour, as the war has cut off the supply of finely bolted flour. One great advantage from it is that the teeth will get the ingredients they need for proper growth and repair. The coarse war bread has to be chewed more carefully, and this will aid in warding off decay from the teeth. The prehistoric skulls found in Switzerland have fine teeth, few with any traces of caries, but the biting and grinding edges are much worn. Caries of the teeth has become shockingly prevalent in Switzerland in the last fifty years except in remote cantons where the people live on coarse food with little sweets. He says that Switzerland stands at the head of the countries with defective teeth. The coarse war bread may improve matters in this respect. Good bread should have a hard crust 8 or 10 mm. thick. Another disadvantage of fresh soft bread is that particles adhere to the teeth.

55. **Harelip Operation.**—Matti gives sixteen illustrations showing the technic and fine cosmetic and durable results of his method of utilizing the protruding tissues to close the gap with bilateral harelip.

57. **Deafmutes in Switzerland.**—Siebenmann relates that the number of deafmutes in Switzerland has never been accurately recorded, but the census of 1870 showed 24½ deafmutes to 10,000 inhabitants, while the average for the other European countries is scarcely 8. In the Bern district the figure was 42, in Lucerne 44, and in Wallis 49. The districts in which goiter and cretins are most numerous also seem to be endemic foci of deafmutism. The proportional number of deafmutes seems to decrease progressively from the Alps down to sea level. Only about two-thirds of the deafmutes in Switzerland are found in the institutions for deafmutes; the other third are in institutions for the feebleminded.

58. **Differentiation of Varicella.**—Tièche is in charge of the smallpox hospital and in 1907 he noticed that applying to his own arm vaccine and lymph from patients with smallpox or varioloid induced a constant reaction similar to the Pirquet tuberculin skin reaction. It was a simple matter therefore for him to test on his own arm lymph from patients suspected of smallpox or varioloid. With varicella there was no reaction. He urges physicians to test their own skin in this way and, if it is in a condition of allergy like his skin, they will have thus a simple method for control always with them. In his ten years of experience with it, this test has proved conclusive in 98 per cent. He describes eleven cases here in which the findings were most instructive, and saved all concerned from the annoyance of isolation for smallpox. He points out further that the eruption in the smallpox group usually takes a centritugal form, spreading to the extremities, while with varicella the location is more centripetal, the abdomen, chest and face being mainly affected. With varioloid the outlines of the efflorescences are roundish, with varicella more of a rosette type. They scrape off easily but it is difficult to scrape off a variola pustule; this is Brocq's *grattage méthodique* test. Sketches are given of the appearance on his own arm of the reaction to the suspected lymph and to the control actual vaccine test, as seen at intervals of from two to five hours in the course of twelve or sixteen hours. He has found a number of other persons with similar allergy that can be utilized for the test inoculation. With none of his sixty varicella cases was there ever a reaction like that of the variola group.

Annali d'Igiene, Rome

October, 1917, **27**, No. 10

59 *Hemorrhagic Icterus. P. D. Siccardi and G. Bompiani.—p. 609.
60 Differentiation of Botryomyces. E. Fattore.—p. 621.

59. **Spirochete Jaundice.**—Siccardi had made a special study of the infectious jaundice in the troops, caused by the *Spirochaeta icterohemorrhagiae;* his death from laboratory infection has recently been recorded. In this article he described a case with exclusively hemorrhagic manifestations. The blood findings showed some of the spirochetes intertwined in pairs. A guinea-pig inoculated died in from three to twelve days with hemorrhagic lesions in the viscera. Other animals inoculated from the guinea-pig developed the typical hemorrhagic jaundice. The symptoms in the young man were those of purpura associated with rheumatic pains in bones, joints and muscles, with swelling of the tissues around the joints—a typical example of rheumatoid purpura with fever of the epidemic jaundice type with the Inada spirochete in the urine.

Gazzetta degli Ospedali e delle Cliniche, Milan

Jan. 3, 1918, **39**, No. 1

61 Linear Gooseflesh. (Dermografismo oripillatorio.) A. Campani.—p. 2.

Jan. 6, 1918, **39**, No. 2

62 Rheumatic Sepsis. U. Baccarani.—p. 11.

Policlinico, Rome

Jan. 13, 1918, **25**, No. 2

63 *Mercurial Treatment of Rat-Bite Disease. E. Borelli.—p. 25.
64 Induced Edema Sign of Heart Disease. G. Galli.—p. 30.
65 The Surgical Service at the Front. G. Gatti.—p. 32.

63. **Mercurial Treatment of Rat-Bite Disease.**—Borelli has only one case to report but the benefit was apparently striking, the local edema, lymphangitis and eruption promptly subsiding. The patient was a frail boy of 13 and a piece

of the rat's tooth had been left in the wound, which had cooperated in the severity of the case. Borelli argues that treatment known to be effectual in other spirochete diseases are certainly indicated also here.

Riforma Medica, Naples

Jan. 5, 1918, **34**, No. 1

66 *Tuberculosis and Gassing. E. Tedeschi.—p. 2.
67 Facial Spasm Cured by Electricity. V. Desogus.—p. 3.
68 Overlooked Laryngeal Tuberculosis D. Tanturri.—p. 4.
69 Italian Mentality in Medicine. A. Ferrannini.—p. 9.
70 The Venereal Diseases in Wartime. A. Botti.—p. 13.

66. **Tuberculosis and Gassing.**—Tedeschi remarks that it is of comparatively frequent occurrence that a man, who has been gassed and had apparently thrown off all the ill effects, develops infarcts and hemoptysis from congestion later, showing hemorrhagic inflammatory lesions in the lungs. In two cases described in detail there had never been any signs of tuberculosis before in one case; in the other an old process had evidently flared up anew. In this case the prognosis is grave, but the other patient seems to be overcoming the disease and improving.

Brazil-Medico, Rio de Janeiro

Dec. 8, 1917, **31**, No. 49

71 Flagellated Parasites. V. (Waskia wenyoni n. sp.) O. O. R. da Fonseca.—p. 417.
72 Simultaneous Presence in the Blood of Antigen and the Respective Antibody. A. Moses.—p. 418.
73 *Cicatricial Binding of Arm to Chest. A. F. de Magalhães.—p. 419.

73. **Cicatricial Adhesion of Arm to Thorax.**—The brachiothoracic coalescence, as de Magalhães calls it, was corrected by a cautious and tedious operation with autoplasty, in the two cases described with illustrations.

Cronica Medico-Quirurgica, Havana

November, 1917, **43**, No. 11

74 *Opacity of the Cornea. J. Santos Fernandez.—p. 283.
75 *Helminths in Cuba. I. G. Agostini.—p. 285.

December, 1917, **43**, No. 12

76 Utility of Scientific Congresses. J. E. L. Silvero.—p. 324.
77 Purulent Pleurisy in a Parturient. G. Casuso.—p. 329.
78 *Tender Point with Gastric Ulcer. F. G. Rossi.—p. 330.
79 Tests of Hearing in Aviation Service. E. Martinez.—p. 331.
80 Diacono's Urine Typhoid Reaction. V. Cabrera.—p. 333.

74. **Opacity of the Cornea.**—Santos Fernandez refers to vague opacities not well defined, and discusses the possible etiology. He relates that in 378 cases of interstitial keratitis among his 48,000 patients, the cornea sometimes recuperated and became normally transparent again, leaving at most transient astigmatism or myopia. This restoration of transparency is particularly striking after total opacity from ophthalmia neonatorum. He queries how this can be explained.

75. **Helminthiasis in Cuba.**—Agostini states that during seven years of service with the Nipe Bay Company at Preston he found intestinal parasites in 33 per cent. of 1,433 persons examined. The findings were about the same in children as in adults. The hookworm was found in 33 per cent., and nearly as often the *Trichocephalus dispar*. The drinking water was taken from a river; one family living on the banks of the river had eight members with hookworm.

78. **Tender Point with Gastric Ulcer.**—Rossi's tender point is 4 cm. from the umbilicus, under a line bisecting the second quadrant. The patient reclines supine, the abdominal walls relaxed. The intensity of the pain grows less as the ulcer heals. He has found this sensitive point constant in over 400 cases, the findings confirmed by the course of the case or operation. The pressure must be applied toward the lumbar spine.

La Escuela Medico-Militar, Mexico

November, 1917, **1**, No. 6

81 Technic for Collecting and Forwarding Pathologic Products. E. Cervera.—p. 7. Continuation.
82 *Surgery for Wounds of the Abdomen. D. Moreno.—p. 9.
83 Plasmogenesis and Morphogenesis. J. Torres.—p. 11.
84 Histology of Cornu Ammonis. I. Ochoterena.—p. 15. Continuation.
85 Vaccine Therapy. Z. P. Castañeda.—p. 18. Conclusion.

82. **Abdominal Stab or Bullet Wounds.**—Moreno advises immediate operation if there is reason to suppose that the urinary apparatus has been injured at any point, as the absorption of extravasated urine leads inevitably to fatal uremia. If the wound is in the kidney, it may be sutured, but if in the ureter, the kidney had better be removed, he thinks, as any attempt to suture the ureter usually fails and places the patient in grave danger. If the wound is in the bladder he advises suprapubic incision and another incision in the perineum or vagina. The latter is merely for drainage; the wound in the bladder generally heals spontaneously. The uremia from injury of the urinary apparatus is more rapidly fatal than from infection, especially if the urine has infiltrated into the peritoneum. Under other conditions he advises to refrain from operating except when the projectile has grazed the abdominal wall and opened it like a cut. Otherwise he refrains from operating, trusting to nature to throw up a wall of adhesions around any matters that have escaped into the peritoneum in consequence of a stab or bullet wound. If a large artery has been opened, the patient will bleed to death whatever we can do, and if it is merely a small artery that is bleeding, we are liable to snuff out the weak flame of life by the anesthesia and the operative shock. He remarks that many cases of death that have been ascribed to the internal hemorrhage were in reality deaths from collapse from operative shock. If there is hernia of omentum, he advises to ligate the pedicle so that it may drop off later.

Prensa Medica Argentina, Buenos Aires

Nov. 30, 1917, **4**, No. 18

86 *Toxin Extracted from Tubercle Bacilli. L. Sivori and F. Jauregui.—p. 235.
87 *Excessive Gastric Secretion and High Chlorid Content in the Blood. J. R. Goyena and A. J. Petit.—p. 235.
88 Cancerous Chyliform Polyserositis. M. R. Castex and N. Romano. —p. 242.

86. **Toxin Extracted from Tubercle Bacilli.**—Sivori and Jauregui report that their long research has resulted in the extraction from tubercle bacilli of a toxin which responds to all the tests for peptone. It kills guinea-pigs weighing 500 gm. in six days, in a subcutaneous dose of 0.5 c.c. If the animals are prepared with small doses, commencing with 0.1 c.c. to a total of 1 c.c. in fifteen days, they stand subcutaneous injection of the otherwise fatal dose of 0.5 c.c. without showing any disturbance. The serum of rabbits prepared in this way confers immunity also on other rabbits. Unprepared rabbits die in two hours after injection of 2 c.c.; with a dose of 5 c.c. rabbits die in one hour, and with 10 c.c. death is practically instantaneous. They think that this peptone toxin from tubercle bacilli promises to be useful in serotherapy as its extreme toxicity and the immunity it confers fulfil the desiderata better than anything else known to date. No details are given as to the technic for extracting this "new peptona toxin," as they call it.

87. **Hyperpepsia and Hyperchloridemia.**—Goyena and Petit confirm that the sodium chlorid content of the blood almost parallels the proportion of chlorin in the gastric juice, so that when there is retention of sodium chlorid from impermeability of the kidneys, the stomach will usually show hyperchlorhydria. The accumulation of sodium chlorid on account of the inability of the kidneys to eliminate it properly may lead to excessive secretion of gastric juice. In these conditions the hyperpepsia may be the first appreciable sign of insufficiency on the part of the kidneys. Castaigne found hyperpepsia in 45 per cent. of 300 cases of chronic nephritis. The range was from 80 per cent. in the cases of incipient kidney disease to only 4 per cent. in the advanced cases. The hyperpepsia in these cases may be regarded as an eliminating hyperchlorhydria. Hence in cases of excessive gastric secretion, incipient kidney disease should be suspected. They test the kidney functioning first by putting the patient on a strict salt-poor diet for ten days, measuring daily the sodium chlorid eliminated in the urine, and then again after a test dose of 10 gm. of salt. Daily weighings and record of the arterial pressure complete the data for the diagnosis. They give the minute details of three cases all confirming that dis-

turbances from hyperchlorhydria may be traced to incipient kidney disease, and that restriction to a salt-poor diet may not only restore the kidneys to a normal plane of functioning but also banish the symptoms from excessive secretion of gastric juice.

Siglo Medico, Madrid

Dec. 8, 1917, **64**, No. 3339

89 *Unilateral Paralysis Agitans. C. Juarros.—p. 926.
90 *Pathogenesis of Gastric Pain. S. de Santa Maria.—p. 931.

Dec. 15, 1917, **64**, No. 3340

91 The Teaching of Biologic Chemistry in Spain. J. R. Carracido. —p. 950.

Dec. 22, 1917, **64**, No. 3341

92 Relations between Chronic Arthritis and Arteriosclerosis. G. Hurtado.—p. 962.
93 Morphology of Trachoma Bodies. F. Mas y Magro.—p. 964.
94 *Dementia Praecox. G. R. Lafora.—p. 966. Commenced in No. 3339, p. 928.

89. **Unilateral Paralysis Agitans.**—The facts that the tremor is limited exactly to one side and that there is no sensation of heat or perspiration on that side seem to confirm the assumption that paralysis agitans has its origin in some cerebral lesion. The tremor seems to be a manifestation of abnormally exaggerated muscle tonus. The inhibition represented by a voluntary movement explains the arrest of the tremor during the volitional movement. The reflexes are normal in the case described.

90. **Analysis of Pain in the Stomach.**—In De Santa Maria's experience, the overwhelming majority of persons who complain of pain in the stomach present indications of constitutional asthenia with vagotony. The vagus stimulates the motor and secreting functions of the stomach. In persons with vagotony we can expect to find hyperchlorhydria, hypertonicity or hyperperistalsis in the stomach. One of his patients now under treatment has violent painful contractures of the stomach and a typical hunger pain sensation. In short, he affirms that the determining cause of the pain is the motor excitability of the stomach, regardless of whether gastric secretion is exaggerated or depressed. Another cause for pains is in the disturbance of the law of contrary innervation, to which Meltzer recently called attention. With normal conditions in the digestive tract, when there is a wave of contraction, the segment just below relaxes; this is the mechanism by which the food is passed along through the alimentary canal. When this synchronism of opposite actions is upset, from any reason, the segment below the wave of contraction fails to relax, and may itself contract, this contrary innervation thus setting up antiphysiologic action. It is liable to be particularly violent in the stomach, as the prepyloric region is innervated by the vagus, and its spasmodic contraction subsides under atropin. The pylorus itself, however, is innervated by the sympathetic. Any upset in the physiologic concerted action of these two segments inevitably entails pain. Treatment should aim to attenuate the motor functioning in some cases of gastric pains; in others to neutralize the excessive secretion, with measures to soothe the overexcitable vagus system.

94. **Organic Basis of Dementia Praecox.**—Lafora presents testimony to sustain the assumption that dementia praecox results primarily from perverted functioning of the sexual glands. Their products do not get properly acted on by the protective ferments formed in the blood, and they consequently circulate as toxins, damaging the brain cortex and probably also the vegetative nervous system. This toxic injury might readily explain the mental and physical symptoms of dementia praecox. The remissions sometimes observed are like the recovery from drunkenness, and seem to indicate that the toxic action has been temporarily suspended or neutralized. Dementia praecox is hereditary in the mendelian sense, as a recessive. The inferiority inherited may be of the same gland or of different glands.

Gann, Tokyo

December, 1917, **11**, No. 4

95 *Effect of Scarlet Red on Mice. M. Takeuchi.—p. 47.
96 *Microscopic Findings in Nephromas. J. Watanabe.—p. 48.
97 *Pigment Cells in Pia Mater. S. Katsunuma.—p. 54.
98 *Cancer of the Esophagus. K. Yamagiwa.—p. 57.

95. **Proliferation of Tissues in Mice under Injection of Scarlet Red.**—German summaries are given of the Japanese articles in this journal which is devoted to cancer research. Takeuchi reports that repeated injection of mice with scarlet red in oil, injected into the region of the lacteal glands induced in them decided proliferation so that many of the passages became obstructed. The proliferating, glandular cells gradually became atrophied unless the injections were long continued. In this case the lacteal glands became finally entirely transformed into connective tissue with occasional patches of cartilage cells. This response to the scarlet red was more pronounced in the male mice, probably because the lacteal glands were less differentiated. In three there was an actual cystadenoma aspect and in one there was an infiltrative growth of the gland cells. This suggested the possibility that atypical malignant growths might be induced in this way. Repeated injections at brief intervals are more effectual than with longer intervals. The article is illustrated.

96. **Embryonal Nephroma.**—Watanabe reports that comparison of the microscopic findings in three cases of kidney tumors and in kidneys from human embryoes showed that the structure seemed to be identical in all. Hence he insists that these tumors should be called embryonal nephromas. The article is illustrated.

97. **Melanosarcoma of the Pia Mater.**—Katsunuma reports a case of primary melanosarcoma in the cerebellopontine angle with extensive metastases in a boy of 5. Also a case of melanosis of the pia mater in a woman of 26. In twenty-one Japanese fetuses he found pigment cells in the pia mater as early as the fourth month.

98. **Cancer of the Esophagus and Alcohol.**—Yamagiwa has secured the data in respect to cancer of the esophagus in Japan and tabulates them. Of the 311 cases, 93.28 per cent. were in men; 12.19 per cent. were in persons under 46, including two women and one man under 30. In 1.6 per cent. the patients were over 70, and 7.39 per cent. between 66 and 70. There was a history of the daily use of alcohol, up to 727 or 909 c.c. of Japanese rice wine, in 27.8 per cent.; moderate consumption of alcohol in 12.4 per cent., a small consumption in 6.1 per cent. There was thus a history of consumption of alcohol in 83.9 per cent., while only 16.1 per cent. were known to have not used alcohol. These data were collected from ten different Japanese clinicians and surgeons at the request of Fibiger of Copenhagen.

Russkiy Vrach, Petrograd

Sept. 23 to Oct. 21, 1917, **16**, No. 38-42

99 The Life Work of Prof. V. A. Levasheff, 1864-1916. S. Vladislavleff.—p. 513; Y. L. Okunevsky.—p. 513; M. D. Ilin. —p. 518.
100 *Serodiagnostic Test of Flour. N. N. Kostyamin.—p. 518.
101 Isolation of Cholera and Typhoid Germs. S. I. Zlatogoroff.—p. 522.
102 The First Russian Red Cross Disinfection Train. S. V. Posadsky. —p. 524.
103 The Coefficient of the Permeability for Air of Textiles in Clothing. K. V. K. Korbutt.—p. 529.
104 Town Planning from Standpoint of Hygiene. V. P. Kashkadamoff. —p. 530.
105 *Public Kitchens. D. P. Nikolsky.—p. 532.
106 *The Death Rate in Russia. V. I. Binshtok.—p. 536.
107 Tests for Disinfectants. E. V. R. Speranskaya.—p. 537.
108 Comparative Tests of Formaldehyd Sterilization. K. N. Shapsheff. —p. 540; V. I. Kostyamin.—p. 542.

100. **Serologic Test of Flour.**—Kostyamin obtained a prepared serum from rabbits by injecting them with different flours. He used a solution in six parts saline, filtering it through extra hard Schleicher and Berkefeld filters. The first injection was 15 c.c.; the second 20 and the third 30 c.c., all at five day intervals. The animals lost nearly 100 gm. in weight but their blood serum then contained precipitins for the flour used, and it was thus possible to detect admixture of rye, barley and oatmeal with wheat flour. The most instructive reactions were obtained when the titer of the serum was 1:300 or 1:500. As small admixtures as from 3 to 5 per cent. can be thus detected when the serum is left in contact with the flour for thirty minutes. The serum seems

to keep well in fused glass tubes at 4 or 6 degrees C. Flour from peas, beans and rice is also used at times to adulterate wheat flour, but he did not include them in his research.

105. **Public Dining Rooms.**—Nikolsky urges that the municipal authorities and charitable organizations should combine to organize public dining rooms where the poor and the middle classes could get nourishing food at or near cost. He says that the restrictions in food brought by the war in all the belligerent countries are growing more and more oppressive, and the local authorities will have to take some steps in the matter. He cites figures from Moscow to the effect that from 1898 to 1902, there were 17 pounds of meat, beef, mutton or pork, consumed to 9 pounds of potatoes; in 1908 to 1912 the figures were, respectively, 15 to 8. In 1916, only 8 pounds of meat were consumed to 31 pounds of potatoes. He outlines plans for cooperation of all town and rural authorities with charitable, mutual aid, sickness insurance and other associations to organize public dining rooms in central locations in markets or stores, and in factory and mill districts. The medical societies can cooperate by working out a standard dietary and suggesting menus from the articles of food available at the time. In conclusion he reiterates the importance of teaching the public to purchase and cook food more advantageusly.

106. **The Death Rate in Russia.**—Binshtok states that while the mortality in children is exceptionally high in Russia, it is exceptionally low for the aged. The death rate among women is higher than in other countries, in comparison to the death rate in men. The mortality in Russia has declined in the last twenty-five years. The general coefficient from 1869 to 1873 was 37.8; from 1909 to 1915 it was 28.4, but the death rate among infants has not shown as much of a decline as the death rate in general. The deaths from acute infectious diseases in 1891-1895 totaled 403,777 while in the five years ending with 1914 the figure was 284,997. During the same periods, there were 72,703 and 29,063 deaths from smallpox and 112,955 and 60,249 deaths from typhoid. The number of medical health officers in thirty-four of the rural districts was 530 in 1870, but by 1900 there were 2,010 and in 1912, 2,970. Binshtok remarks parenthetically that the proportion of new recruits unable to read or write was, in 1874, 79 per cent.; in 1912, 33 per cent.

Norsk Magazin for Lægevidenskaben, Christiania

January, 1918, **79**, No. 1

109 *Color Perception. (Om farvesans.) B. Malling.—p. 1.
110 *Pregnancy Albumosuria. A. Tanberg.—p. 41.
111 *The Growth of Schoolchildren. K. Z. Henriksen.—p. 52.
112 *Prostatectomy. O. Borchgrevink.—p. 61.

109. **Vision for Colors.**—Malling reports detailed study of color perception in twenty-five supposedly normal persons in his environment. The number found with defective color perception was surprisingly large, and the anomalies were of various kinds ranging from slightly abnormal perception to total lack of perception—color blindness. He proceeds to discuss in particular the variations in the perception of the same color by different individuals, the intensity of the perception as contrasted with other parts of the spectrum, and the neutral spot and the shortening of the spectrum. In some cases part of the color had dropped out of view although what was left was seen in its true tint. This is a comparatively common defect, he found. He emphasizes that the limits between color perception defects that should debar from certain occupations and those that do not so debar are not decisively drawn as yet. Even if some test should yet be found applicable to all cases, it would still be a question whether signals by colors had not better be abandoned, as being far from dependable.

110. **Albumosuria during Pregnancy.**—Tanberg says he has encountered albumosuria in five pregnant women. It always disappeared a few days after delivery and did not seem to have any pathologic or prognostic import.

111. **Growth of Schoolchildren.**—Henriksen gives the averages of 1,333 schoolchildren measured in the Horten schools (Norway).

112. **Prostatectomy.**—Borchgrevink had 7 deaths in 16 cases of perineal prostatectomy and he then abandoned this route, as the drain tube is so liable to fall out or get plugged with clots. Neither of these mishaps is likely with the suprapubic technic, which he has applied in 84 cases without serious mishaps of any kind. In 24 other cases there was cancer or other condition forbidding prostatectomy, and he merely made a suprapubic opening into the bladder; in 30 other cases of enlarged prostate, treatment was restricted to catheterization. The proportion of cancer cases in the total group was 9.6 per cent. The mortality in 82 noncancerous cases was 6.1 per cent., and 86 per cent. can be regarded as entirely cured. The sexual functions were not modified by the operation in 35 and in 5 they were improved. In 10 they had been lost before the operation was attempted. On the whole he is convinced that suprapubic prostatectomy is surprisingly harmless when infectious processes in the urinary passages and renal insufficiency are given proper treatment and conquered before the operation is attempted with due heeding of contraindications, operating under local anesthesia, and guarding the patient past the critical points afterward.

The danger from the operation is far less serious than from the Damocles sword over the head of every "prostatiker." Bronchitis was a frequent complication, a recurring of the bronchitis to which the men had long been subject. It proved serious in only 3 cases. Pulmonary embolism was the cause of death in 2 cases. Epididymitis developed in 15 out of 67 cases; in the other 36 vasectomy was done systematically to ward it off. When the drain is removed and the urine is voided by the natural route, sudden high fever warns that the outflow of urine is more or less obstructed and that the drain must be replaced or a retention catheter introduced. The patient's life hangs by a thread if this stasis fever is misinterpreted. It was pronounced in 7 of his cases and mild in a number of others. Epididymitis four months or two years after the operation occurred in 3 cases, and 3 had hernia develop at the site of the incision. Three others had to have calculi removed from the bladder two or three years after the prostatectomy; one required a second operation for this purpose nine months later. Stenosis of the urethra or in the bed of the prostate developed in 4 cases; in 2 this impeded slightly the introduction of the catheter into the bladder, but one of these men has been entirely well during the five years since; another still has a little residual urine and cystitis. In two cases the cicatrix from the incision plugged the opening into the urethra, and part had to be excised. Persisting hiccup was observed in 3 cases. Tardy cystitis developed in 3 but yielded promptly to silver nitrate treatment in 2. The third patient required sectio alta anew, and six weeks' drainage of the bladder before the patient regarded himself as cured. One with a tuberculous process in the kidney kept his cystitis for the two years he lived, as also another who had not been given radical treatment.

In weighing the contraindications, he specifies particularly the triad, polyuria, low specific gravity and low urea content of the urine. None of his patients with a specific gravity of over 1.010 developed uremia, while of the 23 with a specific gravity of 1.010 or below, 14 developed uremia, 11 of them dying. A satisfactory urea content, even with low specific gravity, is a favorable sign. The preliminary and preparatory drainage should never be omitted unless exceptionally for young men in good condition with only a small amount of residual urine, normal specific gravity and urea content, and no infection in the urinary passages. In the after-treatment, provision for copious intake of fluids must be ensured and free outlet provided. He does not let the men get up early, not until the reaction to the operation is past and the drainage permits. Otherwise the temperature runs up. He also strives to keep the men in the hospital as long as possible to watch for complications. Total retention—even occurring once and transiently—and paradoxic ischiuria both call for prostatectomy, he affirms, without delay. Too often the spastic contraction of the bladder is mistaken for an abdominal tumor and precious time is wasted while the deadliest complication, renal insufficiency, is making rapid strides.